Participative construction and validation of the logical model of the School Health Program

Construção e validação participativa do modelo lógico do Programa Saúde na Escola

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ABSTRACT This is a qualitative evaluation study, which elaborated and validated the logic model of the School Health Program. Data collection occurred in meetings with seven administration officers in a participative manner, using a script with open questions. The thematic analysis resulted in the development of the following categories: Conception of the School Health Program; Advances and Challenges; and Results Reach. The results enabled the outline of the program’s logic model, and facilitated the communication with the administrators on the operational effects and influences of the model, offering subsidies for future evaluation studies of the School Health Programs.


RESUMO Trata-se de um estudo avaliativo, de abordagem qualitativa, que objetivou construir e validar o modelo lógico do Programa Saúde na Escola. A coleta de dados ocorreu em reuniões com sete gestores, de forma participativa. Foi utilizado um roteiro com perguntas abertas e técnica de elaboração de cartazes. A análise temática possibilitou a construção das categorias: Criação do Programa Saúde na Escola; Avanços e desafios; e A busca de resultados. Os resultados permitiram delinear o modelo lógico do programa e favorecer um diálogo, junto aos gestores, sobre os efeitos e as influências operacionais deste modelo, oferecendo subsídios para futuras pesquisas avaliativas na área da saúde escolar.

Introduction

Health policies acknowledge the school setting as a privileged fertile environment to develop and propagate health promotion practices, preventive actions and health education (Brasil, 2009). Based on the intimate link between health and education, there is a consensus that higher education levels are related to a healthier population, as well as a healthier population has a greater chance in engaging in both formal and informal education (Casimiro; Fonseca, Secco, 2014).

The School Health Program (PSE, Programa Saúde na Escola), introduced in Brazil by the Presidential Decree no. 6,286, of December 5, 2007, emerged as an intersectoral policy between the Ministry of Health and the Ministry of Education. The program envisions comprehensive healthcare (prevention, promotion and care) to students from the Brazilian public primary education, within the schools’ settings and/or in the Basic Health Units, carried out by the Family Health Strategy (Brasil, 2009). The PSE actions are taken in specific territories, according to the coverage area of the Family Health Teams (EqSF, Equipes de Saúde da Família), motivating the creation of links between the equipment from health and education public systems (Brasil, 2010).

The establishment of school health as a public policy for health promotion and quality of life requires intersectoral coordination and planning, and the definition of interdisciplinary initiatives based on local realities, identifying real problems and viable solutions (Casimiro; Fonseca; Secco, 2014). However, after searching the literature, no publication was found on the assessment of the logical structure of the program, in contrast to what is effectively developed in practice, which was converted into the rational for this study.

The logical model (LM) of a program is a visual scheme that shows its operation and provides an objective basis regarding the causal relation between its elements. The LM design is one of the stages of the assessment process (Bezerra; Cezarin; Alvez, 2010). The LM presents the internal rationality of an intervention, that is, the interaction between the necessary resources, the planned activities and the expected effects, allowing to map the weakest aspects that require evaluation (Oliveira et al., 2015).

This study aimed at designing and validating the LM of the Carioca School Health Program (PSE Carioca), contributing to the Health Programs and Projects Assessment. Moreover, our results support future evaluative research in School Health, providing tools for better communication, spreading experiences and overcoming the challenges of implementing the program.

The focus of this research is to understand the views of managers and professionals in the school health program, regarding goals, guidelines and aims of the monitoring and evaluation component of the PSE, according to the Interministerial Decree (Brasil, 2007). As the publication of the decree dates back almost a decade, its performance should be subjected to evaluative studies. In order to promote a useful evaluation and design an LM that generates a reflection on the program’s framework, a participatory approach was selected. According to Furtado et al. (2013), although being a polysemic term, participatory evaluation encompasses the input of other agents into the evaluation process, such as managers, program or service employees, partners of other services and sectors, and users, in addition to the evaluators. This approach favors reflection and dialogue between the program’s implementers and its obstacles, potentiating the achievement of the program’s ultimate goals.

Methods

This was an evaluative study, with a qualitative approach, carried out with seven program managers in the city of Rio de
Janeiro (RJ). This study is part of a doctoral thesis on participatory evaluation of the PSE's health actions.

The LM design process occurred in two stages, considering the importance of its participatory aspect. First, a meeting with the coordinators of the PSE Carioca in July, 2015 took place to formalize the research, present the study proposal and the ethical aspects, and obtain authorization for its execution. Secondly, after approval from the Research Ethics Committee of the Anna Nery School of Nursing and School Hospital São Francisco de Assis (EEAN / HESFA – approval on the 26th of August 2015, under the number of Certificate of Presentation for Ethical Assessment – CAAE: 46890515.8.0000.5238), a meeting was held for the LM design. An invitation to this meeting was sent via electronic mail to 18 members of the PSE's coordination and technical teams, both from previous and current administrations. The invitation was accepted by seven participants, who attended the meeting on October 1, 2015.

It is worth mentioning that, in order to prepare for the LM design meeting, documents and the official publications about the program were analyzed (Ministry of Health, decrees and by-laws, and Official Gazette of the municipality). With the information from these documents the program's objectives were outlined, and the target population and goals were defined. Also, further explanatory elements were introduced such as the actions to be operated in the program, necessary resources and the impact to be achieved, all of which helped equip the discussions in an ideal, theoretical and normative perspective. Based on the analysis of these documents, the need was perceived to validate the LM and discuss the program, in order to identify potentials, barriers and fragilities, with the actors who developed and managed the program.

A previously prepared script with open questions was used as a data collection tool, addressing topics about inputs, activities, results, impacts, and monitoring and evaluation routine of the program actions. In parallel with the script, a poster was presented with the purpose of organizing raised ideas, facilitating the visualization of the points to be discussed and expose them to the group present at the meeting. Both the script and the poster helped in the participation of the managers in the process of designing the logical model.

The meeting, which was coordinated by one of the authors of this article, began with the presentation of the objectives, justification and ethical procedures. The Informed Consent Form was provided and signed by the participants who accepted to collaborate. Permission to record the dialogues during the meeting with an MP3 player was also given after assuring that participants would be identification by numbers between 9 and 15 (CNS, 2012). The data collection technique was explained while the participants responded collectively to the script. Concomitantly with the debate, the poster was being filled with labels representing specific topics.

Plastic-covered labels written in various colors were displayed in the meeting room table, which could be attached to the poster set on a flipchart. Only the labels ‘Components’, ‘Inputs’, ‘Activities’, ‘Results’ and ‘Impact’ were previously attached to the poster. As the questions were launched and collectively answered, the remaining labels were placed and rearranged by the participants, discussing each topic under the context of Rio de Janeiro (RJ). The meeting lasted 2 hours and 22 minutes. After that, speech transcription and the graphic design of the LM were performed. In March 1, 2016 a follow-up meeting took place to present the results, and validate the final LM framework. There was also a follow-up on the analysis presented herein for transcription validation. A positive consensus was obtained from the participants on the digitized design of the PSE Carioca logical model, as well as a positive validation of the speech transcriptions.
Results and discussion

Based on the theoretical framework of Program Evaluation (Brousselle et al., 2011), the construction of a LM is the best technique to outline the evaluative question and define the feasibility of the evaluation process. Therefore, confronting practice with theory, the aim is to explore how the program performs in the field – where one can identify and discuss its goals, activities, results – and what factors, within a given context, can influence the achievement of objectives. The participation of the managers was consensual and based on the citations of authors such as Furtado et al. (2013), which point out that Brazil needs to increase the effective participation of managers of the programs and services connected to public policies. This would establish new settings for evaluation and participation (in addition to the councils) that have as starting point the knowledge generated by the evaluation of the service or program by its own participants, be it workers, managers, users, families etc.

According to Bezerra, Cezarin and Alvez (2010), one of the limitations of the LM design is not accounting for possible barriers to program execution. Thus, it is necessary to validate the LM of a program and discuss its components, goals, barriers and weaknesses among the main actors who developed and manage the program.

The meeting was attended by seven managers and the PSE Carioca technical team, of which only two were male. Participants were aged between 34 and 68 years old, and employment time in the PSE Carioca was from 6 months to 30 years. As for the specialists’ category, there were: 2 doctors, 1 nurse, 1 speech therapist, 1 dentist, 1 psychologist and 1 pedagogue.

From the beginning of the LM construction, the need to discuss with the participants the monitoring and evaluation component of the health program was perceived. One of the statements revealed that, even though the participants were involved in the execution and management, there was a need for a continuous dialogue about the components considered in the normative documents of the National PSE – five in total – (Brasil, 2007).

One participant questioned this quantity:


In order to trigger and motivate the beginning of the discussions, the components were presented, exposing to all the general proposal of the National PSE, as listed and contemplated in the national document: a) Evaluation of the health conditions of children, adolescents and young people attending public schools; b) Health promotion and prevention activities; c) Continuing education and training of health and education professionals for young people; d) Monitoring and evaluation of students’ health; and e) Monitoring and evaluation of the program (Brasil, 2007, 2015). In the Municipal Decree of PSE Carioca (Rio de Janeiro, 2015), however, only the first three components are listed as actions. The document classifies the evaluation components as operational attributions and guidelines.

From this point, the discussion was triggered, which resulted in the following thematic categories (Bardin, 2011): Creation of the PSE Carioca; Advances and challenges; and The seek for results.

Creation of the PSE Carioca

On the issues involving in the program’s creation it is worth addressing a brief history of the PSE Carioca. In addition, it is evident in the following statements that there is a demand on the education sector generated by the absence of the health sector in the school environment; a deficit in health actions...
in school-age children. This resulted in a ‘medical’ attitude of the educators (Mattos, 2009; Silva, Bodstein, 2016). Let us see below:

A huge demand was created by the education sector. That is, this was not an issue in Rio de Janeiro, it was a moment, this thing about having specialists, children with school problems [...] Health was not present in schools. (P12).

Back in the 80’s, the teacher would ask for an electrocardiogram... She would get desperate because the boy wouldn’t learn and I’d attend him in my office, which was a healthcare center [...] And she’d wanted it back! (P13).

The context of the program’s creation was accompanied by numerous referrals from the education sector of children with learning problems related to biological factors, in addition to the known relationship between school failure and health factors, such as malnutrition, among others. However, the need of a health team that would evaluate and refer all schoolchildren effectively was perceived. With the topic of health promotion being widely discussed from the 1990s, and published as a policy for the first time in 2006, discussions on demedicalization and the need for a change in the approach became evident. Transformations occurred and proposals such as the Health Promoting Schools (EPS) were launched, with the objective of reconstructing the school/health paradigm. The EPS’s premise was that in order to learn and benefit from school investments, children and young people need to be in good health as a prerequisite for education. Moreover, the EPS conveyed the health education program and problem participation, outlining the necessity of elaboration of the current program (Melo et al, 1988; Gomes, 2012; Casemiros, Fonseca, Secco, 2014; Silva; Baptista, 2015; Silva; Bodstein, 2016).

The official documents analyzed by Dias et al. (2014) point out that, since 2007 when the program was created, several publications had the objective that has been included and discussed in this LM, which presents the evolution process of the PSE implementation. In addition, the analysis of these documents highlights how challenging is the execution of the objectives presented by the PSE.

**Advances and challenges**

The PSE actions are developed for specific areas, according to the EqSF coverage, and allow the connection between health and education sectors. Because of this connection, actions that involve distinct sectors predict the integration of knowledge and experiences from the other sector (Ferreira et al., 2012). The advance in this aspect compared with the historical context is observed by the managers, as follows:

I think that the gain was the integration, which is still not the best [...] So, with this integration, I think it starts to increase the possibility of a promotion, a forecast, an anticipation of the problems. (P13).

In order to corroborate the discussion, it is worth highlighting that, one of the objectives of the National PSE is to strengthen the relationship between public health and education networks. Another objective is optimizing the connection and the use of available spaces, equipment and resources, favoring the continuity of care and promoting access to specific healthcare network levels (Brasil, 2007). The improvement observed by the managers during the discussion is the new understanding of school health, referenced by the participants as one of the reasons that strengthened the intersectoriality of the program, which corresponds to the objective of the National Program.

Since the 1990s, health promotion has been acknowledged and supported by
international organizations as an election strategy for school health. With this new understanding, changes have occurred in roles and responsibilities by partnerships and articulation around health-promotion strategies in school (CASEMIRO; FONSECA; SECCO, 2014). The following statement, highlights this understanding:

See, I think that, as a gain, is this new understanding, that today the school understands a little better what is health promotion [...] So, when school health enters this ‘branch’, looking at the whole school community, we do not go ‘hunting witches’ because, before, we were hunting problems. Now, it is prevention. It is health promotion. (P10).

The term ‘hunting witches’ demonstrates the active search for diseases and injuries among children in schools, from a perspective of an already established disease, or diagnosis, and no concern with prevention, education and health promotion. This perspective is still under transformation and discussion, since only the health sector is still seen as the actor and responsible party, without school participation in the health education process. From the new understanding pointed out by the participants, the school is no longer only a space in which health actions take place, but rather a partner and executor of health actions. Therefore, both the health and education systems must, through the articulating link, maintain agendas and calendars that favor the participation of all involved, which was seen as a gain in the group discussion.

Putting into practice and developing articulated actions, named ‘anticipatory’ by the management group, provided the program’s implementers with a look beyond the school and towards the school community: teachers, directors, students, parents, guardians and all school employees, such as general service workers, lunch monitors, collaborators, etc. Thus, authors point out that health education events in the school community (with physical activity, food, and quality of life themes, among others) are now relevant and included in the planning of actions, meeting the objectives of the National PSE (FERREIRA; JARDIM; PEIXOTO, 2013).

One of the core activities of the PSE Carioca is the planning, monitoring and evaluation of promotion, prevention and health care actions in the schools (RIO DE JANEIRO, 2015). Thus, the program works towards reaching the objectives of the national program by monitoring actions. As for the information systems that provide data for this activity, the National PSE recommends recording the activities developed within the PSE (BRAZIL, 2011) in both: a) the e-SUS System of Basic Care (e-SUS/AB), for actions related to component I; and (b) the Integrated Monitoring, Execution and Control System (Simec), for actions related to the other components (II, III, IV and V).

Based on the need to better monitor and facilitate the actions’ registration in these official systems, a single registration proposal was established, with the implementation of the PSE Carioca Registration Form as one of the strategic tools of the 2015-2016 Basic Project (RIO DE JANEIRO, 2015). The purpose of this tool was to help fill out the official systems (e-SUS/AB and Simec) and, especially, to support the planning, monitoring and evaluation process of health actions in schools, providing agility and reliability of the record.

The data entered and analyzed by the participants of health actions in schools in a timely manner favored the decision-making process carried out by the managers of the offices involved in the development of the PSE Carioca. Also, it favored the monitoring and evaluation of the thematic distribution of health actions in schools. That is, the proposal of a single registration was evaluated positively, as pointed out in the speech of a manager:

All we can say is that we are moving forward today [in the implementation of the PSE], with the monitoring... the creation of this monitoring...
by Google Drive. It is unique [for the secretariats involved] and accessible [...] The systems, the Simec and the e-SUS, in terms of report, qualitatively, is poor. Because there are only collective actions and you have here, ‘in the form’, individual actions. It is not a good system, but it is what we have [...]. Because we did not have a system, like, a single one for the three offices. Each office has one system and one does not talk to the other. (P11).

In a way, having a single registration system allows monitoring the actions of PSE Carioca and, in practice, it improves the articulation between the departments involved – health, education and social development. This is corroborated by authors that understand the intersectorial aspect as the main challenge of the program, which, among other objectives, aims at rebuilding and solidifying the relationship between the health and education areas (Dias et al., 2014). The following speech illustrates this:

The challenge is to understand that we are all in the same boat; we have to do the best possible for our children [...] So we have to articulate and understand that one of our challenges is to strengthen the articulation. (P11).

The challenge is not exclusive to the Brazilian territory. Other countries, such as Argentina, are cited in a study which states that health promotion actions have a high rate of interruption due to the disarticulation among the involved institutions, and goes against the quality of the link between them and discourages the participants, including schoolchildren (De Lelli et al., 2010).

Within this perspective, intersectoral activities should be developed through a differentiated, planned and programmed process, with power distribution and the articulation of interests, knowledge and practices among involved institutions/sectors (Ferreira et al., 2012). The following statements show a discussion on gain and intermediate results, which explains the task force of the involved professionals in overcoming the challenge of intersectoriality. They’ve adopted a posture of investment, changes and, consequently, possible advances in the understanding of the importance of having young students as protagonists:

The moment you understand the potential of a student’s role, you improve the way you see yourself and the caring [...] It is a failure, not to promote the mobilization of student leaderships. (P11).

But this point is being discussed at Intersectoral Working Group meetings. It is a demand of the Education office and the Social Development office is engaged in it ... It is allowing students to take decisive positions. (P15).

As a follow-up on this topic, studies such as Ferreira et al. (2014), found a consensus among the respondents, that youth protagonism could favor the participation of the youth/adolescent in the development and execution of the PSE of that it should be strengthened.

Another challenging point, which is worth a brief discussion, was the relationship between the school unit, the referral health unit of the school and the health unit accompanying the child linked to the Family Health Unit. This is evidenced by the following speech:

Another thing that I think is a prejudice is the regionalization issue, because you follow the schools of the region [...] In fact, EqSF will perform the health promotion in the school, but the individual care is recommended to be done in the area where he lives. (P11).

Then, we come into another barrier, which is the communication issue. Because, even if this child was accompanied by two teams but they had a way of ‘communication’, where it could be exchanged, we could overcome this difficulty. (P14).

It is worth mentioning that during the
LM discussion, a suggestion was made by the managers – from previous terms and supported by the National PSE – to plan and strengthen regular local meetings between health professionals from the school and the professionals of the health units of that territory. An approximation, bond and partnership must be built and agreed upon. In the same way, there must be an articulation between health equipment at all levels of attention, to promote the holistic health of school-age children. This suggestion promoted a discussion and reflection at the meeting, on how managers – from health and education – were following-up and ensuring continuity of care for schoolchildren. At this point, the labels were placed in the action plan of the LM poster, and on immediate and intermediate results.

The study by Sousa, Erdmann and Mochel (2011) obtained a similar result from interviewed managers’ and professionals’ that there was no articulated network in childcare services, with a similar communication issue. According to those interviews, the health system does not guarantee the effectiveness of the referral and counter-referral system, and consequently it does not guarantee the continuity of care at the various levels of attention, requiring a better instrumentalization.

**Seeking results**

The objective of the PSE is to contribute to the integral formation of students, through holistic healthcare actions in the school (health prevention, promotion and care, and access to the various levels of care in the healthcare network), tackling the vulnerabilities that jeopardize the full development of children and young people in the Brazilian public school system (Brasil, 2009; Ferreira et al., 2014).

At the LM construction meeting, this was presented as the social impact of the program, what the PSE really wants to achieve. However, before achieving the consensus on this, an active discussion between managers took place, evidencing the need for understanding what the PSE actually proposes and what is the program’s working strategy. Some participants were unsure, providing dubious answers, but their lines presented connections with the above objective, as seen in the conversation below:

*Ensure health prevention and promotion? (P9).*

[Followed by the answers:]

*Of schoolchildren [...] and guarantee the right to health and education. (P10).*

*Health for life [...]. It is much broader, because if you provide it to him in childhood, in school, during his training, you give it for his whole life! And what’s more ... he’ll take it to his family. (P13).*

It is worth highlighting that the LM construction exercise provided a moment of reflection on the theoretical understanding of the program, which was seen as a positive point by the participants. At this point of the discussion, an issue for reflection emerged regarding the principals of school units, managers of the health units and EqSF, the latter being the action executors of the program in primary care: how do they understand the program, from the activity perspective and its impact? Thus, based on the statements, we observed that a better understanding of the envisioned impact of the PSE and its importance would influence the involved professionals who would start to value the health actions in the school.

By designing the LM, we intended to disclose the set of hypotheses necessary to improve the challenging situation, that is, to open ‘the black’ box of the program, get a clear view of its operationalization and expected results (Brouselle et al., 2011). This modeling stage also favors the identification of disrupting factors of the linear cause-effect...
Participative construction and validation of the logical model of the School Health Program

The relationship between the program and its results. The relevant points presented by the managers, which are parallel to the challenges described, were:

‘Monitoring and evaluation deficit’, which led to the creation of the Registration Form in the municipality, and which after one year of implementation, has improved the monitoring and evaluation component of the program. This provided to the health and education sectors a better and quicker access to follow-up data, which facilitated the monitoring of the thematic distribution and the identification of the EqSF involved in the actions, providing integral attention to the schoolchildren.

‘Lack of financial resources’, which are directly linked to delays in ‘Human resources and capacity development’. The health professionals who plan and execute actions are also the ones referring to the overload of the basic care services. This in turn discourages the implementation of health promoting actions aimed at the students, who require, in a less expressive way, strategic actions in biomedical interventions.

Therefore, from the exchange of information during the meeting, the LM of the PSE Carioca was built and approved by the group, as shown in figure 1.

Figure 1. Logical model of the Carioca School Health Program. Rio de Janeiro, October 2015

Source: Constructed collectively by the authors, Carioca PSE coordinators and technical management team officials from the Municipal Health and Education Office, October 2015.
Final considerations

The study allowed the construction of the PSE Carioca LM and favored a dialogue with health and education professionals on the theoretical and methodological framework of the program, in accordance with the local effects and the operational influences, that interfere and contribute to the execution of the programmed actions set forth in the normative documents of the PSE. On the verge of completing ten years of the Presidential Decree publication establishing the National PSE (BRASIL, 2007), gains and advances are evident, although much still needs in-depth discussions. Therefore, more research is needed in the area of school health, with the aim of contributing to the integral formation of students through actions in health promotion, prevention and diagnosis, coping with vulnerabilities and referring to the Healthcare network for the comprehensive healthcare for schoolchildren.

Among the difficulties, intersectoriality still is a challenge to be overcome. This challenge accompanies the need to raise awareness and strengthen relationships among professionals in health, education, social assistance and other partners, on their referral network and regionalization. Regular local meetings, and a single information system for the program, which allows a timely use by the offices involved, are mentioned as strategies and viewed as recommendations to address this problem.

The creation of the PSE Carioca LM was done in a participative way, with the managers and the technical team. However, as a limitation, the LM construction and discussion did not involve other executives of the program, as it occurred with the EqSF professionals. Nevertheless, this preliminary research on the reality of a municipality, stimulates and subsidizes future evaluative research in the area of school health, aiming at the generalization of the results to the diverse Brazilian realities.

Contributors

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