

COMPREHENSIVE MATERNAL AND CHILD HEALTH CARE IN THE COVID-19 PANDEMIC: INNOVATIVE STRATEGIES IN THE INTERIOR OF BRAZIL



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Maria Luisa Suárez Gutiérrez Cella¹, Gabriel Bloedow da Silveira², Thalyta Freitas dos Santos Laguna³, Marli Terezinha Stein Backes⁴, Regina Gema Santini Costenaro⁵ and Cristina Saling Kruehl⁶.

ABSTRACT

Objective: To describe the process of development and implementation of a maternal and child health care strategy in municipalities in the countryside, adapted to the context of the Covid-19 pandemic. Method: An action research study conducted in six stages: (1) survey of maternal and child health demands and analysis of indicators; (2) creation of actions aimed at priority needs; (3) systematization of actions in a manual; (4) presentation of the proposal to municipal managers; (5) face-to-face implementation of actions; and (6) virtual adaptation of the strategy. Results: Interventions were developed aimed at the most urgent demands in maternal and child health, adjusted to the virtual environment in response to

¹ Doctor, Master in Maternal and Child Health (PPGSMI)
Franciscan University - UFN

E-mail: malu_suarez@hotmail.com

Orcid: <https://orcid.org/0000-0002-8836-8699>

Lattes: <http://lattes.cnpq.br/2927610905596205>

² Psychologist, postgraduate student in Clinical Psychology
Pontifical Catholic University of Rio de Janeiro (PUC-Rio)

E-mail: psi.gabrielbloedow@gmail.com

Orcid: <https://orcid.org/0000-0002-9633-2063>

Lattes: <http://lattes.cnpq.br/4379582429047477>

³ Psychologist, Master's student in the Graduate Program in Health Sciences: Gynecology and Obstetrics (PPGGO)

Federal University of Rio Grande do Sul – UFRGS

E-mail: thalytalaguna@gmail.com

Orcid: <https://orcid.org/0000-0002-4227-0020>

Lattes: <http://lattes.cnpq.br/4379582429047477>

⁴ Obstetric Nurse. Dr. in Nursing

Federal University of Santa Catarina (UFSC)

E-mail: marli.backes@ufsc.br

Orcid: <https://orcid.org/0000-0003-3258-359X>

Lattes: <http://lattes.cnpq.br/9167164607859564>

⁵ Nurse, Dr. in Philosophy of Nursing, professor of the Professional Graduate Program in Maternal and Child Health (PPGSMI)

Franciscan University – UFN

Email: reginacostenaro@gmail.com

Orcid: <https://orcid.org/0000-0001-8657-2066>

Lattes: <http://lattes.cnpq.br/0922777034087385>

⁶ Psychologist, Dr. in Human Communication Disorders, professor of the Professional Graduate Program in Maternal and Child Health (PPGSMI)

Franciscan University – UFN

Email: cristinakruehl@prof.ufn.edu.br

Orcid: <https://orcid.org/0000-0003-1996-7708>

Lattes: <http://lattes.cnpq.br/8954129250852110>

the restrictions imposed by the pandemic. Among the main products is the creation of a website that integrates informative texts, podcasts, continuing education courses, educational videos and a multiprofessional virtual support group for pregnant women. Conclusion: The strategy demonstrated efficacy in ensuring comprehensive maternal and child health care in rural municipalities, with significant potential for replicability in other contexts.

Keywords: Covid-19, Pandemic, Maternal and Child Health Services.

INTRODUCTION

Maternal and child health has been recognized worldwide as a priority for reducing health inequalities and promoting the well-being of populations, especially in developing countries (Victora et al., 2003). In Brazil, this commitment has resulted in significant advances, such as the expansion of access to prenatal care and the implementation of public policies aimed at comprehensive health care for women and children (Barros et al., 2001). However, studies show that structural and social challenges persist that limit the effectiveness of these interventions, especially in more vulnerable regions, where infant and maternal mortality rates remain high (Victora et al., 2003; de Oliveira et al., 2021). In this context, the search for more inclusive health strategies, which incorporate the principles of equity and humanization, is essential to overcome the barriers that still exist and improve maternal and neonatal outcomes throughout the national territory.

In recent decades, government policies, programs, and strategies aimed at maternal and child health have been developed and implemented in Brazil, especially the Stork Network (CR), proposed in 2011 (Araújo et al., 2014). This strategy aims to structure and organize maternal and child health care in the country. Although its full implementation still faces challenges at the national level, studies point to significant improvements in indicators related to prenatal care in Brazilian municipalities (Brasil, 2015). Among the advances achieved, the modernization of hospital infrastructure, the reduction of maternal and infant mortality rates and the increase in the satisfaction of postpartum women as a result of humanized care during prenatal care, labor and birth stand out. These results reinforce the importance of ensuring quality care, supported by qualified health teams and the commitment of the State (Lansky et al., 2014).

Despite these advances, high rates of maternal and infant mortality persist, especially in municipalities far from the capitals, which highlights the need to qualify the health care model. This improvement should include the integral monitoring of the gestational period, childbirth, puerperium and early childhood, respecting the principles of humanization and based on scientific evidence (Gilda et al., 2017). The CR Strategy, although it has promoted advances, has weaknesses, such as the predominance of a technocratic-hospital model and a depersonalized approach to women, which disregards the cultural and social pluralities of a socially diverse country such as Brazil (Carneiro, 2013).

The Covid-19 pandemic, which began in February 2020, has aggravated these challenges. Classified as a public health emergency of international concern by the World Health Organization (WHO), the pandemic has highlighted the vulnerability of the maternal and child population. As of August 2020, 155 maternal deaths from Covid-19 had been recorded in Brazil, which is one of the highest maternal mortality rates associated with the disease in the world (Ministério da Saúde, 2020; Takemoto et al., 2020). Although vertical transmission of the virus has not been confirmed, studies indicate that viral respiratory infections during pregnancy increase the risks of obstetric and neonatal complications, including maternal morbidity and mortality and perinatal infections (Rasmussen, Jamieson and Uyeki, 2012).

The challenges identified in the implementation of national strategies, such as CR, are amplified in contexts of vulnerability, especially in inland municipalities, where access to health services is more restricted. In addition, the Covid-19 pandemic exposed structural weaknesses and the need for agile and adaptive responses to meet maternal and child health in adverse scenarios. In this context, it is essential to develop innovative strategies that combine the use of digital technologies with the humanization of care, promoting remote access to information and multiprofessional support, without losing sight of the particularities and needs of pregnant women, postpartum women and children. Such approaches can not only mitigate the impacts of the pandemic, but also establish new paradigms in comprehensive care, more inclusive and resilient in the face of adversity.

In view of this scenario, it has become essential to develop specific actions that respect the principles of humanization of labor and birth, while responding to local demands for maternal and child health. This study aims to describe the process of development and implementation of a maternal and child health care strategy in municipalities in the interior of the state of Rio Grande do Sul, adapted to the context of the Covid-19 pandemic.

METHOD

This study is based on the action research methodology, adopted for its ability to understand a situation and, simultaneously, promote changes in the researched scenario. Action research integrates the generation of knowledge with the implementation of practical actions, directly articulating with the specific needs and challenges of the context studied (Thiollent, 2011; Barbosa, 2013). This approach was chosen due to its adequacy to the objective of the study, which aimed to qualify the maternal and child health care model in a

city in the interior of the state of Rio Grande do Sul. The methodology allowed for a participatory and collaborative posture, favoring interactions between researchers and participants, and the joint construction of practical solutions to the problems identified.

The proposal is aligned with the concept of social technology, which refers to reapplicable products, techniques or methodologies, developed in interaction with the community and aimed at solving social problems (De Sousa, Erdmann and Mochel, 2010). The "Semear" strategy, built in this study, meets these criteria by integrating innovative and adaptable practices, focusing on the humanization of care and the use of technological resources to improve access and quality of maternal and child health care.

PARTICIPANTS

The study had the participation of health professionals, municipal managers and adolescents enrolled in municipal public schools. The health professionals and managers included were directly linked to maternal and child health services and to the education areas of the municipality. These participants answered four questionnaires consisting of 122 questions, designed to identify weaknesses and potentialities of the maternal and child health services offered in the locality.

In addition, 282 female adolescents, aged between 12 and 18 years, all enrolled in municipal public schools, participated in the study. The adolescents answered two types of questionnaires aimed at understanding their life projects and themes related to women's health. The first questionnaire was directed to adolescents aged 12 to 14 years and 11 months, while the second was applied to adolescents aged 15 to 18 years.

Access to the adolescents was made possible through municipal public schools, with prior authorization from parents or guardians, who signed the Informed Consent Form (ICF). After authorization, the adolescents were invited to participate in the research and, in order to formalize their adherence, they signed the Informed Consent Form (TALE). Participation was voluntary and all stages were carried out ethically, respecting the principles of confidentiality and autonomy.

Inclusion criteria were adopted that included professionals and managers with active participation in the health and education services of the municipality, as well as adolescents enrolled in municipal public schools, with the proper authorization of their guardians and voluntary adherence. On the other hand, professionals and managers who had no active link with the institutions during the data collection period were excluded from the study, as

well as adolescents who did not obtain authorization from their guardians or who did not provide the necessary consent.

DATA COLLECTION AND ANALYSIS PROCEDURE

The study was conducted between August 2019 and September 2020, structured in six stages that include the survey of demands and analysis of maternal and child health indicators; creation of actions to meet priority needs; systematization of actions in a manual; presentation of the proposal to municipal managers; implementation of face-to-face actions; and adaptation to the context of the Covid-19 pandemic. In the first stage, a survey of demands and analysis of maternal and child health indicators was carried out through questionnaires applied to pregnant women, health professionals and local managers, in addition to the analysis of epidemiological data from the municipality (Lansky et al., 2014; Brazil, 2015). In the second stage, fronts were created and actions were planned to meet priority needs in maternal and child health, based on the data collected, on the CR guidelines, focusing on reducing regional inequalities and promoting humanized care (Gilda et al., 2017). The third stage comprised the elaboration of a technical manual for the systematization of actions, with practical guidelines, based on scientific evidence and principles of humanization of care (Brasil, 2015).

The proposal was presented to the components of the legislative and executive branches of the municipality in a fourth stage, where the actions of the technical manual were discussed and validated, together with municipal health and education managers, thus ensuring feasibility and integration with local public policies. The fifth stage is represented by the implementation of face-to-face actions in municipal schools, Basic Health Units (UBS) and in the hospital. Workshops, educational groups and multiprofessional care were held, promoting access to comprehensive care focused on education and preventive health. The adaptation of the strategy had to be adapted to the context of the Covid-19 pandemic in a sixth stage. The actions were adjusted to the virtual environment, including the creation of a website, podcasts, educational videos, online courses, and remote support through a virtual multiprofessional group (Vilelas, 2020).

The strategy was implemented in a small municipality in the interior of Rio Grande do Sul, with 22,281 inhabitants, located 274.8 km from the state capital (IBGE, 2010). The locality has a GDP per capita of R\$ 24,447.60 (IBGE, 2008) and challenges typical of inland areas, such as limited access to specialized health services.

The demand for the development of this strategy was identified by the coordinator of the municipality's child and adolescent policy. The proposal was previously presented to the municipal health and education managers, being approved in both instances, and was later submitted and approved by the Research Ethics Committee of the Franciscan University (UFN), under protocol No. 3,686,950.

RESULTS

SURVEY OF DEMANDS AND ANALYSIS OF MATERNAL AND CHILD HEALTH INDICATORS

The first stage of the study consisted of a survey of maternal and child health demands in the municipality, based on an analysis of local health indicators. In this process, questionnaires were applied to health professionals, municipal managers and adolescents. Data collection identified the weaknesses and potentialities in maternal and child health services, in addition to understanding the specific needs of the population served.

Health professionals and managers answered four questionnaires, which covered different aspects of maternal and child health, including quality of care, available resources, professional training, and service infrastructure. The analysis of the answers provided an overview of the main difficulties encountered in the care of pregnant women, puerperal women and children, as well as the areas that needed greater attention and investment.

On the other hand, the survey with the adolescents took place through two questionnaires about life projects, risk perception, knowledge about women's sexual and reproductive health, allowing them to understand the expectations and challenges experienced by them, as well as aspects related to access and quality of care in health units.

Table 1 – Percentage of responses from health managers and professionals regarding weaknesses in maternal and child health care

Dimensão Operacional	%	Dimensão Assistencial	%	Dimensão Capacitação Profissional	%
Reuniões 1x mês equipe	65,85	Ações 1x mês	58,54	Orientações “Hora Gold”	55,56
Protocolo no pré-natal	56,10	Grupos gestante 3/3 m	53,66	Parceria escola saúde pública	55,56
Habil. Hosp. Amigo Criança	72,22	Oferta líquidos no trab. parto	83,33	Capacitações aleitamento	50,00
Grau de satisfação	66,67	Métodos alívio dor Trab. parto	66,67	Capacitações Classif. Risco	50,00
Reunião gestores 3/3m	55,56	Inclusão de doulas	72,22	Qualificações Atenção Neo	51,28
Monitoramento A Comunitários	61,54	Atendimento serviço social	77,78		
Protocolo de transporte	100,00	Teste da orelhinha	83,33		
Plano Ação Municipal	73,33	Teste da linguinha	88,89		
		Cursos emerg. escolas	82,05		

Source: Author's own.

According to Table 1, the dimension of professional training evidenced weaknesses related to guidance on breastfeeding in the first hour of life (55.56%) and risk classification (50%). The absence of partnerships with public health schools was also observed in 55.56% of the responses, and 51.28% reported the lack of specific qualifications for neonatal care.

In the municipality studied, according to data from the Health Information Center (NIS/SES-RS), between 2013 and 2017, there were 20 neonatal deaths out of a total of 1375 live births, resulting in a weighted neonatal mortality rate of 14.62 deaths per thousand live births. The peak of the rate was recorded in 2017, with 20.58%.

The analysis of the data revealed weaknesses in the operational, care and professional training dimensions in the health services of the municipality. It was identified that primary care presented difficulties in relation to the organization of services and the access of pregnant and puerperal women to prenatal and postpartum care. In addition, it was observed that most health professionals lacked more continuing education, especially in topics related to mental health and humanized care.

Another critical point identified was the infrastructure of health services, which, although it has made progress in recent years, still has limitations in terms of the availability of equipment and adequate space for care. Such difficulties were more evident in health units

located in areas farther from the urban area, where access and quality of care are compromised by the scarcity of resources.

The indicators also revealed high rates of teenage pregnancy. Between 2013 and 2019, 279 births (20.95%) were of pregnant adolescents. In 2015, the proportion of adolescent births reached 24.89% (57 births out of 229). Although there was a gradual reduction until 2019 (34 births, or 17.89%), the rates remained high.

The reduction coincided with preventive actions implemented in schools, in partnership with the Municipal Health Department (SMS), the School Health Program (PSE) and the child and adolescent health coordination. To deepen the understanding of the needs of the adolescents, data from specific questionnaires were analyzed, which identified topics of greater interest.

Table 2 presents the main topics of interest identified among the adolescents participating in the study, organized by age group. Among the 282 girls who responded to the questionnaires, 97 (34.4%) reported having no interest in topics related to reproductive and women's health. However, the most requested topics for guidance were the use of contraceptive methods, including the risks, chances of failure, and side effects, accounting for 27.7% of the responses. The topic of pregnancy also stood out, being mentioned by 18.4% of the participants.

The results highlight differences in interest in reproductive health topics across age groups. Younger adolescents (12 to 14 years and 11 months) showed greater concern about the use of contraceptive methods (11.7%) and pregnancy (11.3%), while older adolescents (15 to 18 years and 11 months) showed an increase in interest in the same topics, with 16% and 7.1%, respectively. These data were fundamental to guide the creation of educational and preventive actions appropriate to the specific needs of each age group.

Table 2 – Main topics of interest to adolescents according to age group

Interesse	Idade	Qtde	%
Como usar anticoncepcionais, riscos de uso e chances de falha	12 anos e 14 anos e 11 meses	33	11,7
	15 anos e 18 anos e 11 meses	45	16,0
Efeitos colaterais das drogas	12 anos e 14 anos e 11 meses	23	8,2
	15 anos e 18 anos e 11 meses	5	1,8
Gravidez	12 anos e 14 anos e 11 meses	32	11,3
	15 anos e 18 anos e 11 meses	20	7,1
Não estou interessada	12 anos e 14 anos e 11 meses	73	25,9
	15 anos e 18 anos e 11 meses	24	8,5
Não informado	12 anos e 14 anos e 11 meses	2	0,7
	15 anos e 18 anos e 11 meses	5	1,8
Outros (Cólicas, Cistos nos ovários, DSTs, Aborto, Camisinha feminina, Namoro)	12 anos e 14 anos e 11 meses	4	1,4
	15 anos e 18 anos e 11 meses	2	0,7
Tratamento de doenças femininas	12 anos e 14 anos e 11 meses	10	3,5
	15 anos e 18 anos e 11 meses	4	1,4
TOTAL		282	100,0

Source: Author's own.

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CREATION OF ACTIONS TO MEET PRIORITY NEEDS

After surveying the demands and analyzing the indicators, significant weaknesses were identified in the maternal and child health care network in the municipality. Based on these findings, four intervention fronts were developed to qualify care and respond to priority needs:

Sowing Transformation

This front was designed to work on adolescent girls' life projects, promote health education and reduce adolescent pregnancy rates. The actions included meetings in 14 municipal schools with the participation of 35 teachers and 282 families. Short videos were created to address the topics of interest reported in the questionnaires, such as contraceptive use, family planning, and mental health, and were presented in classrooms to facilitate dialogue and reflection.

Sowing Lives

Focused on the creation of a protocol for prenatal and postpartum care, this front included educational groups for pregnant women and conversation circles with users and health teams. The actions were developed together with professionals from the network, considering local needs, and aimed to promote humanized care and safety in the care of pregnant women.

Sowing Knowledge

A Center for Permanent Education in Health (NEPES) was structured, composed of a multidisciplinary team. The center held workshops, theoretical-practical courses and lectures aimed at professional updating in obstetric care, breastfeeding and humanization of care. In addition, events open to the community were promoted to strengthen the bond between users and health services.

Future Semeando

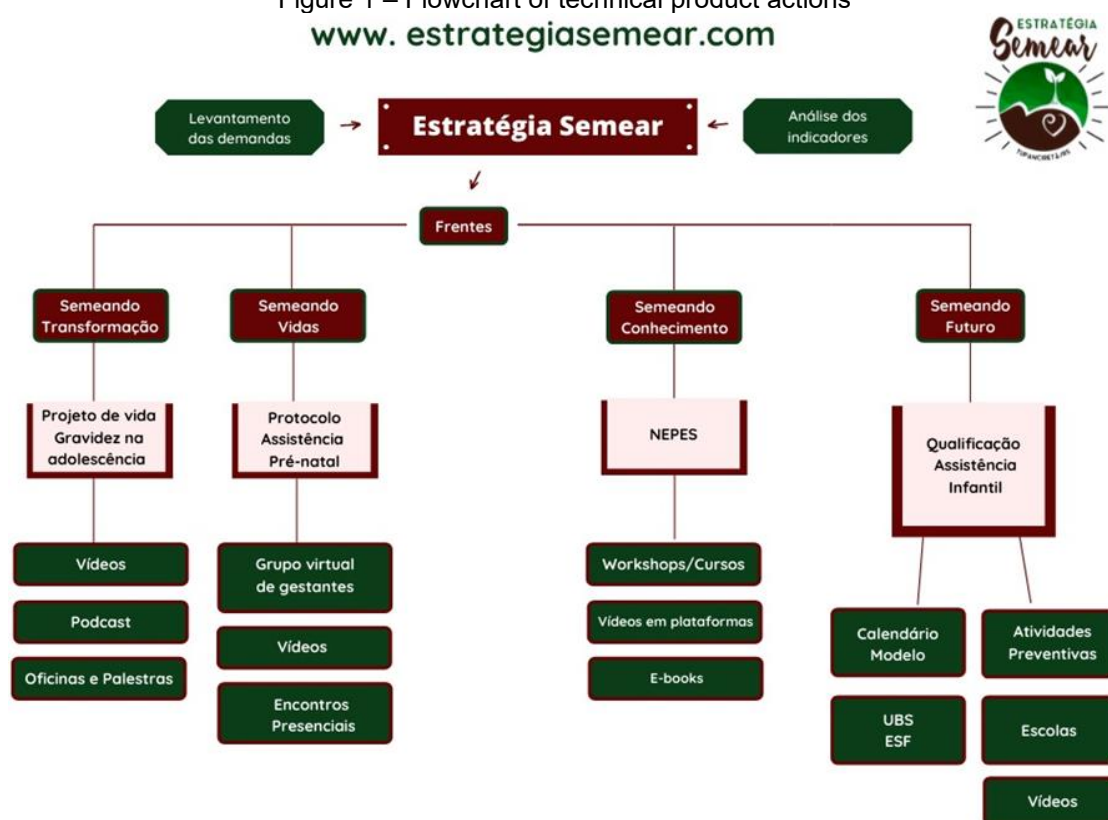
This front established the systematized multidisciplinary follow-up of children up to five years of age, based on a model calendar that provides for a minimum of eight preventive consultations. The actions included guidance to caregivers, educational materials and the organization of health promotion activities in the Basic Health Units (UBS) and Family Health Strategies (ESF).

These initiatives were developed in an integrated manner, seeking to address the weaknesses detected in the survey and promote the transformation of maternal and child health care in the municipality.

SYSTEMATIZATION OF ACTIONS IN A MANUAL

After the creation of the strategy, the actions were systematized in a manual, with the objective of consolidating and organizing the proposed interventions. The manual includes a brief explanation of the strategy's objectives and the process of its formation, providing an overview of the project. It then details, in detail, in detail each of the action fronts, describing the steps necessary for their implementation. The material ends with a flowchart (Figure 1) that summarizes the process, ensuring greater clarity and functionality. This format was planned to facilitate the replication of the strategy in other municipalities in the interior of the state of Rio Grande do Sul, allowing its adaptation to different local realities and expanding its positive impact.

Figure 1 – Flowchart of technical product actions
www.estrategiasemear.com



Source: www.estrategiasemear.com

PRESENTATION OF THE PROPOSAL FOR MUNICIPAL HEALTH AND EDUCATION MANAGERS

The presentation of the Sowing Strategy to municipal managers took place in a structured process, with emphasis on the detailing of the actions and the relevance of the planned interventions. In October 2019, the proposal was submitted for approval by the municipality's Health Council, during an Ordinary Session, where it received a favorable opinion from the absolute majority of members.

In addition, the strategy was presented to members of the SMS, the Municipal Department of Education (SME) and the management of the Municipal Hospital. The reception was largely positive, with representatives of these institutions expressing support and agreeing with the execution of the planned actions.

Other instances of the municipality were also involved in the approval process. The Municipal Council of Education and Culture, in the exercise of its legal attributions, approved the strategy in plenary session. At the end of October, the project was presented to the Legislative Branch, during the free tribune, allowing parliamentarians to know the objectives and actions of the proposal. Finally, the Executive Branch officially authorized the implementation and development of the actions and research associated with the project in the municipality, consolidating the institutional support necessary for its execution.

IMPLEMENTATION OF FACE-TO-FACE ACTIONS

After approval by municipal managers, the implementation of the Semear Strategy began in October 2019. The first action was the realization of a theoretical-practical course of updating in obstetric care, aimed at health professionals involved in maternal and child health care. This course addressed technical and practical content, focusing on improving care and humanizing care.

In addition, educational lectures were promoted at UBS and at the local hospital, with the participation of multiprofessional teams and the community. In parallel, conversation circles were organized to discuss the planning of actions, allowing integration between health professionals and the collective construction of solutions. These initial activities marked the beginning of the implementation of the strategy and established the basis for the execution of the other action fronts provided for in the project.

ADAPTING THE STRATEGY TO THE CONTEXT OF THE COVID-19 PANDEMIC

In January and February 2020, the Covid-19 pandemic became a global reality, requiring rapid adaptations in public health initiatives. In view of this scenario, the Semear Strategy was restructured for the virtual environment, allowing the continuity of its actions and, simultaneously, expanding its reach and impact (Figure 2).

The "Sowing Transformation" front, aimed at adolescents, was able to hold, before the beginning of the pandemic, face-to-face meetings with teachers and guardians in schools. On these occasions, the objectives of the project and the planning of the activities to be developed with the adolescents were discussed. With the emergence of the pandemic, the actions started to be carried out virtually, meeting the doubts and interests of adolescents through short videos entitled "MariaLu's Tips" and podcasts called "MariaLu Responds", available on the Semear Strategy (<www.estrategiasemear.com>) website. These materials address topics such as sex education for adolescents, presented in an accessible way and adapted to the target audience. The videos and podcasts were also targeted at education promoters, parents, guardians and health professionals, ensuring an integrated and inclusive approach.

Figure 2 – Web design of the Semear Strategy website



Source: www.estrategiasemear.com

On the "Sowing Lives" front, dedicated to the qualification of maternal and child health care networks, prenatal consultations were reorganized to avoid agglomerations, prioritizing the safety of pregnant women and health professionals. This reorganization was based on the Manual of Recommendations for Assistance to Pregnant and Postpartum Women in the Face of the COVID-19 Pandemic, prepared by the Department of

Programmatic and Strategic Actions of the Ministry of Health (MS). Two educational booklets were developed, distributed to parturients at the time of hospitalization for childbirth, containing essential information on newborn care and guidelines for the postpartum period. To strengthen the bond with pregnant and postpartum women, a group was created on the WhatsApp application, where a multidisciplinary team shares videos, posts and guidance on topics related to the pregnancy-puerperal period and parenting. This virtual follow-up has shown a positive impact on the promotion of breastfeeding and newborn care, especially among first-time mothers.

The "Sowing Knowledge" front, which focuses on continuing education in health, was adapted to the virtual environment with the publication of four lectures on the website of the Semear Strategy (<www.estrategiasemear.com>). The topics covered in the lectures include: physiological puerperium and nursing care, breastfeeding support by health professionals, obstetric emergencies and newborn health care. These actions sought to train health professionals even in a context of face-to-face restrictions.

The "Sowing Future" front, due to its clinically oriented nature, needed minor adjustments for the pandemic context. Clinical care, the systematization of follow-up and the identification of situations for early intervention were maintained, respecting the current health protocols. In addition, two texts and three educational videos on child development from zero to five years old were published on the site, aimed at fathers, mothers and professionals in the maternal-child area. These materials complemented clinical care, promoting accessible and quality information about the care needed during early childhood.

The adaptation of the Semear Strategy to the virtual environment represented not only an effective response to the challenge imposed by the pandemic, but also an advance in the ability to expand the reach of actions and strengthen comprehensive maternal and child health care.

DISCUSSION

The evaluation of the perception of managers and health professionals, carried out through questionnaires, proved to be an efficient tool to identify the most urgent demands and weaknesses in maternal and child health care in the municipality. This initial approach, combined with the analysis of municipal health indicators, made it possible to formulate problem-solving responses, adapted to regional particularities. Studies indicate that the continuous development and application of methods for assessing the quality of services

are fundamental to transform social realities and improve access to health (Belarmino et al., 2009).

Among the weaknesses observed, the high rate of teenage pregnancy stands out, a condition associated with biological and social risks for both mothers and newborns. Pregnant adolescents are more susceptible to complications such as malnutrition, hypertension, preeclampsia and postpartum depression, as well as adverse perinatal outcomes, such as prematurity and low birth weight (Belfort, 2015). In this sense, actions that promote sexual and reproductive health, integrated with discussions about adolescent life projects, are crucial to prevent these problems and create opportunities for social transformation.

The reduction in infant mortality in Brazil is remarkable, with significant declines since the 1990s, as reported by the United Nations Children's Fund (Unicef, 2019). Despite this, in the municipality analyzed, the weighted neonatal mortality rate between 2013 and 2017 was 14.62 deaths per thousand live births, indicating the need for more effective preventive interventions. In response to this reality, actions such as the systematic monitoring of child development, based on a child care calendar, have the potential to reduce mortality coefficients and promote greater equity in care.

Although preventive actions aimed at early pregnancy are essential, strengthening hospital care during childbirth should be prioritized in public policies. The training of health teams is essential to improve the skills of professionals, foster teamwork and ensure cooperation between doctors and nurses in the context of prenatal care and childbirth. In addition, the creation of bonds with users, based on welcoming, autonomy and continuity of care, is a practice that aligns services with the subjective needs of pregnant women and families (De Campos Oliveira and Pereira, 2013).

Another relevant aspect is the integrality of care, one of the doctrinal principles of the Unified Health System (SUS). Childcare, as a comprehensive care strategy for children, must consider their specific needs, promoting the articulation between the levels of care in a hierarchical health network (Vieira, 2022). This approach strengthens the continuity of care and amplifies the impact of preventive actions.

The Covid-19 pandemic has brought unprecedented challenges to the execution of public policies, requiring rapid adaptation of planned actions. During 2020, the Semear Strategy demonstrated remarkable flexibility in restructuring its action fronts for the virtual

environment. This adaptation allowed the continuity of interventions and reaffirmed the importance of local initiatives integrated with national policies in times of crisis.

The Semear Strategy, by focusing on maternal and child health during the pandemic caused by the new coronavirus, is in line with the recommendations of Cardoso et al. (2021), which emphasize the need for quick and effective adaptations in care for pregnant women, postpartum women, and children in situations of health crises, such as the use of digital technologies for remote monitoring and the restructuring of face-to-face consultations to avoid agglomerations. Qualitative studies, such as the one by Joaquim et al. (2022), highlight that the experiences of pregnant and postpartum women in pandemic contexts highlight the importance of offering emotional support and accessible information about the risks associated with Covid-19, in addition to ensuring the continuity of prenatal care and breastfeeding. These findings reinforce the need for strategies that combine multiprofessional support and the humanization of care, as implemented by Semear.

In addition, Silva et al. (2023) identified that the pandemic negatively impacted the prevalence of breastfeeding, especially due to social isolation and the lack of face-to-face support, but pointed out that educational actions and the use of virtual support groups helped to mitigate these effects. These data corroborate the effectiveness of initiatives such as the WhatsApp groups promoted by Semear, which strengthened the bond with pregnant and postpartum women. Finally, Adib et al. (2021) presented predictive models that identify critical risk factors associated with mortality in pregnant women with Covid-19, such as pre-existing comorbidities and late access to care. These findings can contribute to the prioritization of cases in care and to the formulation of targeted protocols, optimizing the effectiveness of local strategies such as Semear.

Local initiatives, such as the Semear Strategy, are fundamental to meet regional particularities, complementing national strategies and sustaining the health system in a comprehensive way. The flexibility demonstrated by the Semear Strategy during the pandemic highlights its robust structure and adaptive potential, making it a valuable tool for the transformation of local realities and replication in other contexts.

Through its four fronts of action, the Semear Strategy promoted significant advances in maternal and child health in the municipality, with emphasis on educational initiatives. These actions reached not only pregnant women and adolescents, but also health professionals, creating a sustainable impact on the care network. The ground consolidated

by these actions offers opportunities for new initiatives, which can further expand the reach and depth of the results obtained.

CONCLUSION

This study described the development and implementation of the Semear Strategy, adapted to the context of the Covid-19 pandemic, in a municipality in the interior of Rio Grande do Sul. The results showed that the strategy was able to identify and respond to local weaknesses in maternal and child health services, promoting innovative actions that were adaptable to the conditions imposed by adverse scenarios.

The adaptation to the virtual environment represented an important milestone for the continuity of public health actions during the pandemic, allowing the maintenance and expansion of the reach of interventions. The fronts "Sowing Transformation", "Sowing Lives", "Sowing Knowledge" and "Sowing the Future" qualified maternal and child health care through integrated actions based on the principles of humanization, equity and continuing education.

The use of action research as a central methodology allowed the solutions to be built in a participatory way, involving managers, health professionals, adolescents and other social actors. This approach reinforced the importance of local protagonism and integration between different sectors to address health inequalities.

The replicable nature of the strategy, systematized in a practical manual, presents a significant potential for expansion to other municipalities facing similar challenges. This replicability, combined with flexibility and the use of digital technologies, positions the Semear Strategy as a promising model for restructuring maternal and child health care in regional and national contexts.

However, it is emphasized that the sustainability of the proposed actions depends on continuous investments in professional training, infrastructure and support for primary care and hospital networks. In addition, the implementation of public policies that favor comprehensive care and social inclusion is essential to ensure the consolidation of the advances observed.

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