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## Stork Network, public policy for women's health care: an integrative review

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### Abstract

**Objective:** This article aimed to analyze Brazilian scientific productions about the workings of public policies aimed at labor and delivery of women in public health care services. **Method:** This was an integrative review of the following databases and portals: SciELO, BDEF, Lilacs, and the Capes Periodical Portal. Articles published between July 2011 and December 2018, both in Portuguese and English, were included. After applying the inclusion and exclusion criteria, 51 articles were evaluated based on their titles and abstracts, and of these, 30 were selected, which were then fully analyzed. Finally, eight articles remained. **Results:** The analysis yielded three categories: the performance of health professionals, impacts of the Stork Network policy, and the health network and care provided to women. **Discussion:** Health professional work to build a powerful and accessible network for pregnant and postpartum women. **Conclusion:** the organization of the Stork Network still has organizational and structural gaps in relation to good practices in prenatal care and childbirth.

**Descriptors:** Maternal-Child Health Services; Women's Health; Health Care

## INTRODUCTION

The launch of the Prenatal and Birth Humanization Program in 2000, with the aim to reduce peri and neonatal maternal mortality, was a historical milestone in Brazilian public policies<sup>(1)</sup>. In 2011, the Stork Network (Rede Cegonha in Portuguese) was implemented with the main goal of enhancing actions related to mother-child health, promoting obstetric and child health care<sup>2-3</sup>. To this end, it recommends hierarchization in the form of a network; encouraging good labor and delivery practices and, in this direction, discouraging unnecessary cesarean sections<sup>(4-6)</sup>.

The goal of this article was to analyze Brazilian scientific production about how the policies aimed at labor and delivery affect women in public healthcare services.

## METHOD

This was an integrative review study made up of six stages: identifying the topic and selecting the hypothesis; establishing inclusion and exclusion criteria for the studies/sample or search in the literature; defining the information to be extracted from the selected studies/categorizing the studies; analyzing the data, which must be done thoroughly to ensure the validity of the review; interpreting the results; and presenting the review, or a synthesis of the knowledge obtained<sup>(7)</sup>.

For data collection, the PICo<sup>(8)</sup> method was adopted (Population,

Phenomenon of Interest, and Context). The Population (P) included pregnant and postpartum women; the Phenomenon of Interest (I), how labor and delivery policies operate; and the Context (Co) was public healthcare services. In the first stage, the guiding question developed based on the PICo strategy was: "What were the repercussions of the implementation of the Stork Network on the care received by women in public services?". The searches were conducted between January and March, 2019, in the following databases and portals: Scientific Electronic Library Online (SciELO), *Banco de Dados em Enfermagem* (BDENF), Latin American and Caribbean Health Sciences Literature (Lilacs), and the Capes Periodical Portal. The following descriptors and their synonyms were used after consulting the Health Sciences Descriptors trilingual dictionary (DeCS): "Serviços de Saúde Materno-infantil", "Rede Cegonha", "Assistência Materno-infantil"; "Saúde da Mulher"; "Parto humanizado". These were combined with Boolean operators AND, and therefore, the following combinations of descriptors were used: "Rede Cegonha AND Parto humanizado", "Serviços de Saúde Materno-Infantil AND Parto Humanizado", "Assistência Materno-Infantil AND Parto Humanizado" and "Rede cegonha AND Saúde da Mulher".

The researchers included articles published between July 2011 – the period following the implementation of the Stork Network – to December 2018, available in

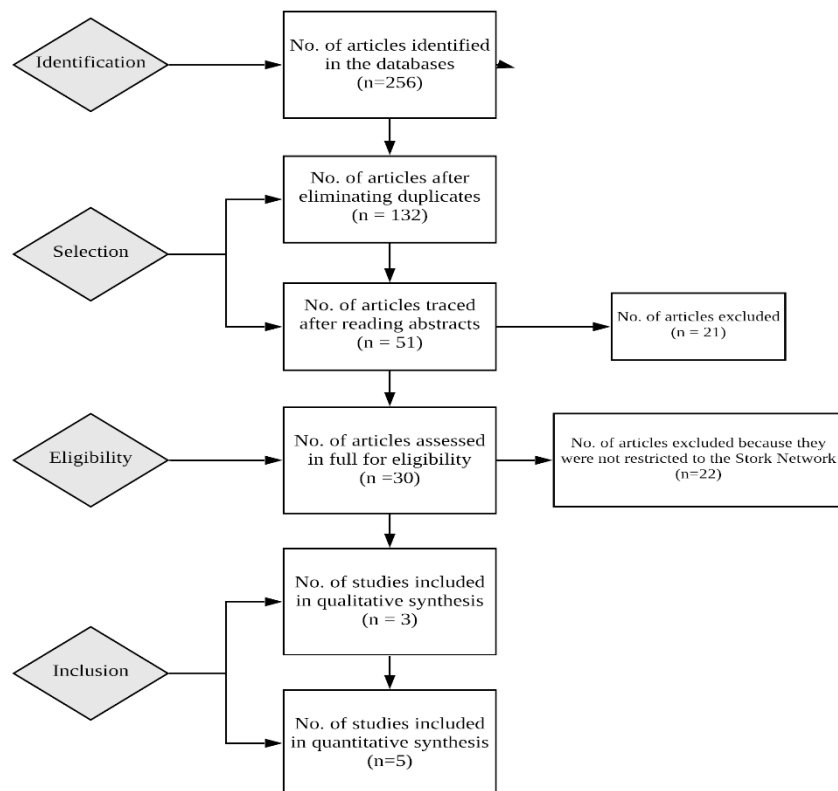
full and freely accessible, either in Portuguese and English.

Publications that did not answer the guiding question were excluded. The articles were selected according to level of evidence: 1: systematic reviews; 2: evidence obtained in experimental individual studies; 3: evidence from quasi-experimental studies; 4: evidence from descriptive or qualitative studies; 5: evidence from case or experience reports; 6: evidence based on expert opinion<sup>(9)</sup>.

For the analysis, the articles were organized in tables and grouped by levels

of evidence, based on methodologies, samples, and data collection techniques. The initial search was carried out by two independent reviewers, using a standardized protocol for how to use and combine the descriptors. As shown in Figure 1, at first, 256 studies were found. After applying the inclusion and exclusion criteria, 51 articles were assessed based on their titles and abstracts; of these, 30 were selected for a full analysis, resulting in eight articles.

Figure 1. Stages of the integrative review, 2019, Niterói.



Source: Preferred Reporting Items for Systematic Reviews and Meta-Analyses: the PRISMA Statement, Niterói, 2019.

The characteristics of the bibliography selected for the review are presented in Table 1.

Table 1. Characteristics of the bibliography selected for the review, 2019, Niterói.

<b>ID</b>	<b>Title of the Study</b>	<b>Authors</b>	<b>Country</b>	<b>Year of Publication</b>	<b>Level of Evidence</b>	<b>Language</b>
A1	Productive restructuring in health: the effects of flexibilization in maternity wards of the Stork Network Program in Rio de Janeiro	Progianti, JM, <i>et al.</i> <sup>(10)</sup>	Brazil	2015	4	Portuguese
A2	Analysis of vaginal births and cesarean sections in the municipality of Goiânia-Goiás: before and after the Stork Network	Rêgo MBC, <i>et al.</i> <sup>(11)</sup>	Brazil	2016	4	Portuguese
A3	Obstetric violence during birth in maternity hospitals linked to the Stork Network	Rodrigues FA, <i>et al.</i> <sup>(12)</sup>	Brazil	2017	4	Portuguese
A4	Vulnerability of black women during prenatal care and childbirth in the Universal Health System: An analysis of a study of the Active Ombudsman	Theophilo, RL,, <i>et al.</i> <sup>(13)</sup>	Brazil	2018	4	Portuguese
A5	User reception and risk classification in obstetric	Figueiroa M N, <i>et al.</i> <sup>(14)</sup>	Brazil	2017	4	Portuguese

	emergencies: an evaluation of operationalization in a teaching-maternity ward					
A6	Teaching practice of nurses in the Stork Network in the light of a historical-structural theory	Alves GA, <i>et al.</i> <sup>(15)</sup>	Brazil	2017	4	Portuguese
A7	Evaluation of process indicators of the prenatal and birth humanization program and Stork Network.	Maia VKV, <i>et al.</i> <sup>(16)</sup>	Brazil	2017	4	English
A8	Articulating Gender and Health: Professional qualification within the scope of Stork Network.	Sally EOF, <i>et al.</i> <sup>(17)</sup>	Brazil	2017	4	Portuguese

Source: Developed by the authors, Niterói, 2019.

## RESULTS

Eight articles were included in this review: seven = (87.5%) published in Portuguese and one = (12.5%) in English. Regarding year of publication, one article (12.5%) was published in 2015, one (12.5%) in 2016, five (62.5%) in 2017), and one (12.5%) in 2018. Three (37.5%) were qualitative,

of which one was documental, one was an exploratory-descriptive study, and one was a reflection study; and five (62.5% were quantitative, of which three (37.5%) were descriptive, using secondary databases, one (12.5%) was prospective descriptive, and one (12.5%) was cross-sectional, as described in Tables 2 and 3.

Table 2. Synthesis of qualitative methodology studies selected for the review, 2019, Niterói.

ID	Authors	Objective	Results	Conclusion
A1	Progianti, JM, <i>et al.</i> <sup>(10)</sup>	To discuss the effects of the productive restructuring of municipal maternity wards of the Stork Network in Rio de Janeiro and its links with nursing.	As an effect of this process, the flexibilization of service management resulted in an increase of the network of labor and delivery care facilities, based on partnerships and management contracts.	Although the program represents an important expansion of the labor market, it reaffirms the flexibilization in the public sector by adopting fragile employment relationships, contributing to the precarious work. In this scenario, the management of these professionals, in terms of regulation and qualification, is a challenge for the implementation and continuity of public childbirth care policies.
A6	Alves GA, <i>et al.</i> <sup>(15)</sup>	To analyze the pedagogical practice of the nurse teachers in connection to the care	The data showed the "teaching practice of nurses in the Stork Network", which includes discussions not only at the academic level, but also takes on the concerns of	The strategies aimed at clinical teaching presented a pedagogical process that

		delivered to women in the Stork Network.	the services and even of the community, showing that the educational aspect of nursing is not dissociated from the care practice.	promoted critical-reflexive learning among students.
A8	Sally EOF, <i>et al.</i> <sup>(17)</sup>	To collaborate to improve comprehensive care.	To varying degrees, the study observed and questioned gender-related issues in the personal and professional lives of the participants, mostly women, such as restrictions to study and choose their careers, reaching current days in which they are heads of family and experience inequalities in sexual division of labor. In the care routines practiced with pregnant women, postpartum women, partners and children, the researchers observed potentially discriminatory practices; inexperience/embarrassment when dealing with new marital arrangements; myths about feeding; barriers placed to the presence and participation of fathers. Women's autonomy and right to choose and to information - starting with admission, in which fasting was the rule, up to an induced cesarean - were repeatedly neglected.	In conclusion, it is important to continue including gender as a theme in the education of health professionals.

Source: Developed by the authors, Niterói, 2019.

Table 3. Synthesis of quantitative methodology studies, selected for the review, 2019, Niterói.

ID	Authors	Objective	Results	Conclusion
A2	Rêgo MBC, et al. <sup>(11)</sup>	To compare the variables involving vaginal birth and cesarean delivery in the period preceding and succeeding the implementation of the Stork Network in the city of Goiás, Goiânia.	The data showed that there were no significant changes in the sociodemographic profile of women in labor, in the characteristics regarding place of delivery, length of pregnancy, number of consultations, and profile of newborns, both in mothers who performed vaginal delivery and those who had a cesarean delivery.	In the beginning of the program, there was a reduction in cesarean deliveries, mainly due to the financial incentive of the municipal health department of Goiânia to hospitals. However, this fact was reversed a year after the implementation of the Stork Network.
A3	Rodrigues FA, et al. <sup>(12)</sup>	To analyze institutional violence against women in labor in maternity wards linked to the Stork Network in Fortaleza/Cascavel.	Regarding the sociodemographic characteristics of the participants: they were between 20 and 34 years old (62.1%). As for the emotional support that should be provided during labor, the participants reported that they had the presence of visitors (82.9%). Regarding attitudes that led to feelings of	The study showed the importance of humanized, adequate care, through the structuring and organizing of maternal-child care proposed by the Stork Network.



			hesitation, the participants said they felt safe (89.4%).	
A4	Theophilo, RL, et al. <sup>(13)</sup>	To analyze the differences in prenatal and childbirth care provided in the Unified Health System, according to race/color, based on data from the Active Ombudsman Survey of the Stork Network in 2012.	Women of black/brown race/color presented worse conditions in terms of socioeconomic conditions, in prenatal and birth care, in all the analyzed variables, except for aggression during labor and supplementary payment.	These inequities and vulnerabilities should serve as a guideline to create policies and actions aimed at reducing health inequalities.
A5	Figueiroa MN, et al. <sup>(14)</sup>	Evaluate the functioning of a reception and risk classification service in a teaching maternity ward in Recife, Pernambuco.	Waiting time for risk classification was 21.2 minutes, duration time was 5 minutes, waiting time for red priority was 3.5 minutes. Spontaneous demand showed that 56% of users were classified as green priority, 60% said they were dissatisfied with the service, and 33% of the nurses received training.	Assessing care in health services should guide the planning of actions and training of teams.
A7	Maia VKV, et al. <sup>(16)</sup>	To analyze the process indicators	The quality of prenatal care	Constant interventions for

		of the Prenatal and Birth Humanization Program (PHPN) and The Stork Network from the prenatal information system.	classification was unsatisfactory for all levels.	the management are needed in order to improve the quality of prenatal care.
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Source: Developed by the authors, Niterói, 2019

After the analysis, three categories were found: the performance of health professionals, impasses of the Stork Network policy, and the health network and care provided to women.

## DISCUSSION

### The performance of health professionals

The implementation of the Stork Network led to the expansion of the care provided to women in labor and babies, whether in the public or private system<sup>(10)</sup>, with an increase in specialized staffing, via various modes of employment contracts; and an increase in qualification courses<sup>(15)</sup>.

The gradual increase in the number of in-service training and encouragement of light technologies<sup>(18)</sup> in teaching are determining factors for excellence in the Stork Network. Despite the promotion of permanent education in the field of women's health, problems<sup>(16)</sup> such as institutional violence were observed, in addition to lack of guidance about practices during labor<sup>(17,12,13)</sup>.

A change in institutional culture is needed<sup>(19)</sup>. Authoritarian and disrespectful

actions, such as ordering patients to stop shouting, calling them by nicknames or making indecent comments<sup>(12)</sup> that affect the users' integrity and respect are still common habits in health services and are contrary to the basic principles of the Prenatal Care and Birth Humanization Program<sup>(1)</sup>.

The objective of continuous health education<sup>(20)</sup> is to provide in-service training and to promote the adoption of good practices for women and their babies.

### Impasses of the Stork Network policy

The implementation of the Stork Network policy<sup>(11)</sup> faces challenges such as the under-notification of prenatal data, lack of prenatal access, lack of referral and counter-referrals, which entails the pilgrimage of women in the search of health care<sup>(13)</sup>.

Women's right to have a companion of their choice during labor and delivery has been ensured by law since 2005<sup>(14)</sup>. However, it is disregarded on the grounds of ignorance.

Another challenge is to reduce the rates of cesarean deliveries and stimulate higher rates of vaginal deliveries<sup>(18)</sup>. However, this is an arduous task for health professionals. Improving health education, expanding the scope of primary health care, developing an open discussion that includes health professionals and users of the Brazilian Unified Health System (SUS), bringing scientific evidence about natural childbirth to the center of discussions will allow women to reflect and have more autonomy about their reproductive life. This is the necessary path forward to address the high rates of unnecessary cesarean sections in Brazil.

Another issue indicated in the studies was related to the difficulty that Black women have to access their first prenatal consultation, which subverts the assumption of universality of care, punishing users in various ways: for their gender, their race (or color), and for their vulnerability, whether because of their poverty status or because of the pregnancy<sup>(13)</sup>.

### **The health network and care provided to women**

Guidelines answering laboring women's questions, and safe birth practice recommendations should be the guiding axis of women's care<sup>(4)</sup>.

To carry out coordinated and networked work, professionals and services must adopt strategies to reduce the waiting time for the first prenatal appointment and the gap between

appointments. These changes help improve the quality of services and benefit the care of women, corresponding to the principles of good care practices.

However, there are still challenges that need to be overcome before achieving comprehensive care for women. These include training, regulation, and nursing practices that guarantee qualified and safe processes. Adopting evidence-based practices is essential for providing effective care to pregnant women and enabling interprofessional work in health that ensures that the needs of women of reproductive age are at the center of health care.

### **CONCLUSION**

The Stork Network has benefited the female population of reproductive age, as it proposes to reduce maternal and infant mortality; however, it still presents gaps in its structural incorporation.

The incorporation of a new methodology and the change of habits in relation to good practices in prenatal care and childbirth require commitment at all levels of the network.

Despite economic hardships, insufficient material, organizational, and structural human resources that cause high turnover and difficulties, interfering in the effective implementation of the Stork Network, the progress and expansion of the Stork Network in different regions of the country was noted.

For the Stork Network to be effectively adopted, organizational

arrangements that aim to reduce inequities need to be adopted to ensure prenatal care to women who are homeless, incarcerated, refugees, and those who are engaged in problematic drug use. More studies are needed that contribute to reorganizing the service network to promote improvements in how pregnant women are taken in by health services.

The purpose of the Stork Network is to reduce maternal mortality indicators, which are still very high throughout Brazil. Therefore, its constant evaluation and the achievement of its objectives also validate the achievement of the 2030 Sustainable Development Goals proposed by the United Nations.

### **Study limitations**

This study was limited to articles, excluding theses and dissertations. It is important to consider that these studies translate particular realities of different regions of Brazil and respect the authorship of ideas. Therefore, they cannot be generalized.

### **Contributions to nursing practice**

The results of this study contribute to the development of strategies to reduce maternal morbidity and mortality such as policies and programs, in this case, the Stork Network. The goal of adopting the Stork Network was to improve the quality of health care provided to pregnant women in the Brazilian Unified Health System.

### **Authors' contributions**

Lago ELM: Designed and planned the study, contributed to data analysis and interpretation, and drafted the article.

Abraha AL: Developed and planned the study, contributed to data analysis, and approved the final version of the manuscript.

Souza ÂC: Planned the study, contributed to data analysis and interpretation.

Alves VH: Critically reviewed the content, drafted the final version of the manuscript.

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