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Model of care in freestanding birth centers in Brazil: a scoping review

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Abstract *Freestanding birth centers (FBCs) in Brazil are regulated to provide care for women with a straightforward pregnancy. The systematization of the literature on FBCs can broaden our knowledge of these facilities. We conducted a scoping review to answer the following research question: “What are the characteristics of the model of care in freestanding birth centers in Brazil?”. Relevant studies covering any period and in any language were included. Searches were performed of platforms, databases, repositories, and institutional websites. The searches followed the stages set out in the JBI Manual for Evidence Synthesis and the review protocol was registered with the OSF. A total of 85 documents were selected, involving ten FBCs. The maternal and neonatal outcomes described by the studies were categorized as follows: respect for women’s autonomy and needs; humanized evidenced-based care; feeling safe with and confident in care providers; use of integrative and complementary health practices; positive maternal experience and neonatal outcomes; and welcoming and comfortable environment. The findings reinforce that care delivery in FBCs is grounded in the biopsychosocial model of health care and that the physical environment and organization of these facilities and approach to childbirth are structured around the needs of pregnant people and their babies.*

Key words *Review, Birth centers, Biopsychosocial model*

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Introduction

Brazil's birth centers (BC) were regulated in 1999, being defined as "health care facilities that provide humanized and optimal care exclusively for births without dystocia"¹. In 2015, the guidelines covering the implementation and accreditation of BCs were redefined in line with the "labor and birth" component of the *Rede Cegonha* (the Stork Network), classifying these facilities as alongside BCs (ABCs) and freestanding birth centers (FBCs). ABCs are located within maternity units or hospitals, while FBCs are located out in the community less than 20 minutes from a referral hospital so that the mother and/or baby can be safely transferred to a higher level of care if the need arises².

The creation and expansion of BCs in Brazil was driven by the mobilization of the women's and humanization of childbirth movements in response to the hospital-centric, interventionist and medicalized approach to maternal and infant health care consolidated throughout the twentieth century by the biomedical model of health care. Calling for a paradigm shift, the humanization of childbirth movement was structured around the biopsychosocial model of care, bolstered by studies questioning routine interventions that failed to safeguard the health of women and babies before, during and after birth^{3,4}.

An important review document addressing care practices was the World Health Organization's "Care in Normal Birth: a practical guide"⁵. The evidenced-based recommendations set out in the report addressed the appropriate use of technologies, including the provision of appropriate settings for physiologic births, such as BCs. According to the guide, these settings should provide a home-like atmosphere, offer women with a straightforward pregnancy care without unnecessary interventions and ensure increased satisfaction with care.

Since the publication of the report, several studies have demonstrated and ratified the benefits of BCs for both maternal and perinatal health. A systematic review by Hodnett *et al.*⁶ comparing alternative and conventional birth settings including almost 12,000 women found that allocation to an alternative setting increased the likelihood of spontaneous vaginal birth, continued breastfeeding and satisfaction with care, and decreased the likelihood of episiotomy, epidural analgesia, and oxytocin augmentation of labor.

Similar results were found by studies involving FBCs⁸⁻¹³. The findings show that in-

terventions underpinned by the World Health Organization (WHO) recommendations on intrapartum care for a positive childbirth experience⁷ directly result in improved health outcomes, including reduced maternal and infant morbidity and mortality.

Despite compelling evidence of the benefits of FBC, the maintenance and expansion of these birth settings face significant challenges in Brazil. Threats of closure, restriction of professional activities by professional bodies, lack of publicity and low levels of referral of pregnant women to these centers by public prenatal care services are some examples of the difficulties encountered by these facilities. In the meantime, the country's maternal and infant health indicators continue to fall short of expectations, with the cesarian section rate for example standing at 88% in private services and 43% in public services¹⁴. In addition, the findings of the national *Nascer no Brasil* (Birth in Brazil) Survey¹⁴ – the largest study to date in the country on labor and childbirth – show that babies are being brought into the world in settings characterized by interventionist birth practices and over-medicalization of childbirth, with urgent changes to the care model, including birth settings, being needed.

The systematization of the literature on FBC in Brazil therefore constitutes an important step towards broadening our knowledge of these facilities and their strengths and weaknesses. The aim of the present study was therefore to conduct a review of current literature on the model of care in FBCs in Brazil.

Method

We conducted an evidence synthesis study in the form of a scoping review, defined by the Joanna Briggs Institute (known as the JBI) as a review that systematically identifies and maps studies available in the literature addressing a given field, theme topic, concept, or issue of interest, allowing the researcher to identify gaps where further research is needed^{15,16}.

Study protocol and registration

The protocol for this review was registered with the Open Science Framework (OSF-DOI 10.17605/OSF.IO/G7DY2¹⁷). Both the protocol and review were developed in accordance with the guidelines set out in the JBI Manual for Evidence Synthesis and structured according to the

Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR)^{15,16,18}.

Research question and eligibility criteria

The research question and eligibility criteria were defined according to the PCC mnemonic suggested by the JBI^{16,19}: Population (FBC patients), Concept (model of care) and Context (FBCs in Brazil). With regard to model of care, we adopted the following definition proposed by Paim²⁰: technologies structured according to the health needs of a population. This definition encompasses both the administrative and organizational dimensions of health services and relational dimensions (health worker-worker and worker-patient interactions) mediated by material and non-material technologies used in work processes and care delivery.

The research question was as follows: **“What are the characteristics of the model of care in freestanding birth centers in Brazil?”**. The following eligibility criteria were established for study selection: articles, guidelines, doctoral theses, master’s dissertations, end of course projects and complete abstracts published in the proceedings of scientific events or journals addressing the PCC; randomized controlled, quasi-experimental or observational studies, case studies, literature reviews, and other relevant studies covering any period and in any language. The following exclusion criteria were adopted: studies where the full-text was unavailable, that did not make a distinction between type of BC (alongside or freestanding) and where the contact made with the author(s) to make queries/request the document was unsuccessful.

Search strategy

The search followed the three stages recommended by the JBI¹⁶. In the first stage, we performed a search of the Virtual Health Library (VHL) and National Library of Medicine (PubMed) to identify keywords and index terms. We then identified ideal sources with the help of an experienced research librarian: a) The VHL and PubMed platforms; b) the Cumulative Index to Nursing and Allied Health Literature (CINAHL-EBSCO), EMBASE (Elsevier), PsycInfo (APA) and Web of Science Core Collection (Clarivate Analytics) databases; c) the repositories CAPES Theses and Dissertations, Cyberthesis, DART-E and OATD; and d) WHO, PAHO, UNESCO and Ministry of Health websites.

In the second stage, we performed a new search using the DeCS/MeSH index terms identified in the previous stage in English and Portuguese (Brazil; pregnancy and birth care centers; health care models; childbirth; delivery rooms; humanized childbirth; access to health services; evaluation of healthcare outcomes). In addition, we included other keywords identified in the previous stage, such as birth center(s), freestanding birth center, out-of-hospital birth center, humanized birth center, health outcomes. Combinations of index terms and keywords were used in search strategies tailored to each particular database, including: [“Centros de Assistência à Gravidez e ao Parto” and (“Parto normal” or “parto” or “trabalho de parto” or “parto obstétrico”) and “Brasil”]; [“Birthing Centers” and (“Delivery, Obstetric” or “Labor, Obstetric” or “Parturition”) and “Brazil”]; [“Modelos de assistência à saúde” and (“parto humanizado” or “parto” or “parto obstétrico” or “trabalho de parto”) and “Brasil”]; [“Healthcare models” and (“humanizing delivery” or “parturition” or “Delivery, Obstetric” or “Labor, Obstetric”) and “Brazil”]; [“Casas de Parto” or “Centro de Parto Normal Extra-hospitalar” or “Centro de Parto Normal Peri-hospitalar”) and “Brazil”]; [“Birthing Centres” or “Freestanding Midwifery Unit” or “Midwifery Unit”) and “Brazil”]. We used EndNote Web for reference management. The search was completed on 12/08/2022.

The documents included in the review were screened using Rayyan, which enables the blinding of the researchers responsible for screening and data extraction.

Finally, in the third stage, the reference list of identified reports and articles was searched for additional sources.

A draft selection form was developed and piloted according to the review inclusion and inclusion criteria. Pilot testing involved the selection of a random sample of 25 titles/abstracts by two reviewers. Any disagreements were solved by a third reviewer. The process resulted in 100% agreement between the two reviewers, resulting in the validation of the form for screening.

Data extraction, management and synthesis

We developed a data extraction instrument based on the JBI template¹⁶ containing the key information of the sources, such as author, reference, and results or findings relevant to the review question, including the FBC studied,

maternal and neonatal outcomes, FBC human resources and materials, form of access, institutional protocols and services provided. The draft instrument was piloted independently by the reviewers and considered adequate for data extraction after making some modifications.

Finally, the data were grouped according to each study variable and summarized and described using frequencies.

Results

A total of 85 studies were included in the scoping review (Figure 1 and Chart 1), comprising 41 articles, 31 master's dissertations, 11 doctoral theses and two end of course reports. The studies involved 33,594 participants, including women, babies and companions.

The studies involved 10 FBCs: Realengo/RJ (n = 35), Sapopemba/SP (n = 15), Casa Angela/SP (n = 10), Sofia Feldman/MG (n = 9), São Sebastião/DF (n = 6), Juiz de Fora/MG (n = 4), Casa de Maria/SP (n = 4), Mansão do Caminho/BA (n = 4), Castanhal/PA (n = 2) and Nove Luas-Niterói/RJ (n = 1). Other studies did not name the center (n = 3) or addressed FBCs in general (n = 3).

The main themes were categorized as follows: evaluation of outcomes/indicators/care; women's experiences/opinions of care received; birth center set up/implementation/trajectory/maintenance; maternal and/or neonatal transfer; nurse/midwife experiences/care; model/philosophy of care adopted by the facility; use of non-invasive technologies/integrative and complementary health practices; birth center ambience/architecture; father's/companion's experience; educational groups/practices; use of birth plans; care and model costs (Chart 1).

Characterization of the physical and organizational structure of the FBCs

Forty studies mentioned briefly or in detail the physical structure of the FBCs. The most commonly mentioned space was the birth room (Figure 2).

With regard to human resources, 60 documents described which type of professionals worked in the facilities. The most frequently mentioned professionals were midwives/nurse midwives (n = 60), followed by auxiliary nurses/nursing technicians (n = 37), social workers (n = 21), cleaning/general services staff (n = 20) and ambulance drivers (n = 20).

Sixty-seven studies described funding, with the public health system, *o Sistema Único de Saúde* (SUS) or Unified Health System, being the most cited source (being the funding provider for nine centers). Only one FBC, the now defunct Nove Luas-RJ, was private.

Thirty-five studies described the form of access to birth centers, with 12 stating that women were referred exclusively from SUS services and nine mentioning that births were unscheduled, with patients seeking care on their own initiative. The remaining 14 studies mentioned that access to care was either via referral or unscheduled care.

Characterization of care

With regard to the target population of the FBCs, 72 studies mentioned that the centers were restricted to straightforward pregnancies.

The main maternal outcomes were categorized as follows: a) respect for women's autonomy and needs/shared decision-making/informed choice (n = 24); b) evidenced-based care (n = 22); c) presence of interventions and/or complications (n = 20); d) patient-professional bonding and feeling safe with and confident in care providers (n = 15); e) use of integrative and complementary health practices (n = 14); f) positive maternal experience (n = 12); g) welcoming and comfortable environment (n = 10); h) power relations (n = 3); i) individualized/continuity of care (n = 2).

Chart 2 shows the prevalence of childbirth interventions, care characteristics and neonatal outcomes in FBC. With regard to maternal interventions, the prevalence of the use of amniotomy varied greatly across FBCs, from 4.7% to 71.3% of cases. The prevalence of the use of oxytocin ranged from 21% to 45% in 11 studies, and two studies reported that the use of the drug was limited (6.3% and 1.9%). The prevalence of episiotomy was less than 15% in eight studies.

The findings also reveal a low rate of third- or fourth-degree perineal tears and low occurrence of the lithotomy position. Both practices were observed in nine studies. Presence of a companion during labor was observed in almost all cases in 10 studies, while good maternal and infant/childbirth care practices, such as skin-to-skin contact and breastfeeding during the first hour after birth, were mentioned by five studies.

Forty-five studies made reference to neonatal outcomes, which were categorized as follows: a) frequency of interventions and/or complications (n = 29); b) positive outcome/

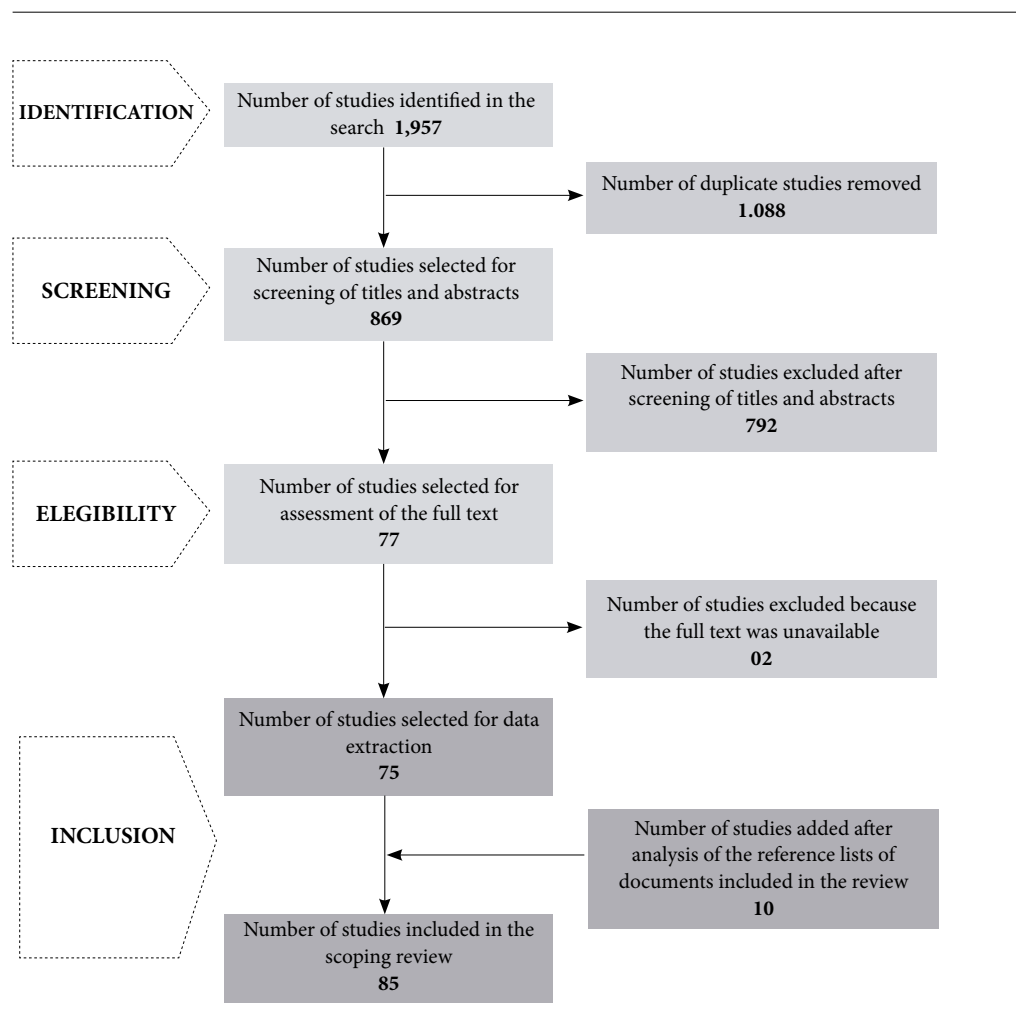


Figure 1. Flowchart detailing the selection of studies.

Source: Authors.

healthy babies ($n = 15$); c) humanized and/or evidence-based care ($n = 9$); d) promotion of mother-infant bonding ($n = 8$); and e) promotion of breastfeeding ($n = 5$).

The most practiced neonatal intervention was airway and gastric aspiration. The prevalence of Apgar score < 7 at 1 and 5 minutes ranged from 0.4% to 6.9% and 0% to 2.7%, respectively. Cases of neonatal death varied between 0% and 1.7% across the studies. There were no cases of maternal deaths.

Fifty-two studies cited one or more birth center performance indicators, including number of admissions, births and transfers, and satisfaction level. These indicators were categorized as follows: a) birth indicators ($n = 33$); b) maternal and/or neonatal transfer rate ($n = 25$); c) maternal and/or neonatal morbidity/compli-

cation indicators ($n = 25$); d) intervention indicators ($n = 17$); e) newborn health indicators ($n = 16$); f) indicators of the WHO good practice recommendations⁷ ($n = 11$); g) mortality ($n = 11$); h) number of prenatal and postnatal appointments ($n = 10$); i) labor admission rate ($n = 7$); and j) quality of care/patient satisfaction indicators ($n = 6$).

Thirty-three studies mentioned birth rate. The mean number of births per month was 30 ($SD = 24.9$) in nine of the 10 FBCs studied, with totals varying between 85 in the Sofia Feldman birth center (MG) and 10 in the Nove Luas birth center (Niterói-RJ).

Twenty studies involving six of the 10 FBCs assessed rates of maternal and neonatal transfers to referral hospitals, with rates ranging from 2.8% to 31.5% and 1.1% to 8.1%, respectively.

Chart 1. General characteristics of the reports included in the scoping review.

Author(s), year	Title	Methods	Birth center	Theme
Almeida, 2009	O ser-casal-adolescente-no-vivido-de-gestar-parir-e-nutrir: uma abordagem existencial como possibilidade para a enfermagem	Qualitative design; phenomenological study	B	II, IX
Amaral, 2016	"Aqui a gente é tratada como pessoa, no hospital é como corpo": motivações e trajetórias de gestantes em uma Casa de Parto pública no Rio de Janeiro	Qualitative design; observational study and interviews	B	II
Andrade, 2016	Centro de parto normal peri-hospitalar: proposta arquitetônica para uma unidade adaptável	Bibliographic and normative study to prepare an architectural proposal	L	VIII
Anjos, 2020	A Trajetória de Casa do Parto Nove Luas, Lua Nova - concepções e práticas na atenção à gestação, parto e nascimento	Qualitative design; interviews e historical documental study.	E	III
Araujo <i>et al.</i> , 1984	Parteras tradicionales en la atencion obstetrica del Noreste de Brasil	Quantitative design; retrospective study	K	V
Azevedo, 2008	Estratégias de luta das enfermeiras obstétricas para manter o modelo desmedicalizado na Casa de Parto David Capistrano Filho	Qualitative design; interviews	B	III
Barros <i>et al.</i> , 2011	Humanizing delivery: a reality in a Birth Center?	Qualitative design; interviews	G	II
Barros, 2017	Os cuidados imediatos ao recém-nascido saudável de parto vaginal nos diferentes modelos de atenção ao nascimento	Quantitative design; evaluation study	B	I
Bonadio <i>et al.</i> , 2011	Transferring mothers from a free-standing birth center to a reference hospital	Quantitative design; retrospective study	C	IV
Botelho, 2021	Desfechos da inserção de dispositivo intrauterino de cobre por obstetizes e enfermeiras obstétricas em um centro de parto normal peri-hospital	Quantitative design; retrospective study e interviews.	J	I
Caixeiro-Brandão, 2008	Vivência do acolhimento da mulher encaminhada da Casa de Parto David Capistrano Filho à unidade de referência	Qualitative design; focus group	B	II, IV
Caixeiro-Brandao and Progianti, 2011	Acolhimento como prática ética, estética e política: estudo de projeto casa de parto	Qualitative design; focus groups	B	II
Campos, 2003	Avaliação da qualidade de assistência no centro de parto normal "Dr. David Capistrano da Costa Filho" em Belo Horizonte-MG	Interviews	A	I
Campos and Lana, 2007	Resultados da assistência ao parto no Centro de Parto Normal Dr. David Capistrano da Costa Filho em Belo Horizonte, Minas Gerais, Brasil	Quantitative design; retrospective study	A	I
Costa, 2007	As práticas educativas na Casa de Parto David Capistrano Filho sob a ótica do cuidado cultural	Qualitative design; interviews	B	X

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Chart 1. General characteristics of the reports included in the scoping review.

Author(s), year	Title	Methods	Birth center	Theme
Cruz and Barros, 2010	Obstetric practices and maternal and neonatal outcomes: analysis of multiple correspondence factors in normal birth centers	Quantitative design; retrospective study	I	I
Diniz, 2009	Women's movement defends birth centres in Brazil	Qualitative design; theoretical study	B	III
Fernandes <i>et al.</i> , 2011	Avaliação do pré-natal de risco habitual realizado por enfermeiras obstetras de uma casa de parto	Quantitative design; retrospective study	H	I
Fernandes, 2004	Ato médico: versões, visões e reações de uma polêmica contemporânea das profissões da área de saúde no Brasil	Qualitative design; interviews documental study.	L; B	VI
Foster <i>et al.</i> , 2017	O acolhimento nos moldes da humanização aplicada ao processo de trabalho do enfermeiro no pré-natal	Qualitative design; focus group	B	V
Gomes, 2011	A prática obstétrica da enfermeira no parto institucionalizado: uma possibilidade de conhecimento emancipatório	Qualitative design; interviews	B	V
Gonçalves <i>et al.</i> , 2011	Experiencing care in the Birthing Center context: the users' perspective	Qualitative design; interviews	C	II
Hauck <i>et al.</i> , 2013	Implantação da assistência humanizada ao parto em Juiz de Fora (1998-2001)	Qualitative	H	III
Hoga, 2004	Birth center, symbols and assistance-related principles	Qualitative design; ethnographic study and interviews	C	III
Hoga, 2006	O cuidado desenvolvido na primeira Casa de Parto brasileira vinculada ao Programa Saúde da Família.	Qualitative design, participatory observation	C	I
Hotimsky, 2001	Parto e Nascimento no Ambulatório e na casa de Partos da Associação Comunitária Monte Azul: uma abordagem antropológica	Qualitative and quantitative design; ethnographic socioepidemiological study	J	II
Jamas <i>et al.</i> , 2011	Mothers' birth care experiences in a Brazilian Birth Centre	Qualitative design; interviews	C	II
Jardim, 2009	Pai-acompanhante e a sua compreensão sobre o processo de nascimento do filho	Qualitative design; interviews	A	IX
Koiffman <i>et al.</i> , 2010	Risk factors for neonatal transfers from the Sapopemba Free-standing Birth Centre to a hospital in São Paulo, Brazil	Quantitative design; case-control study	C	IV
Koiffman, 2006	Fatores de risco para remoção neonatal da Casa de Parto de Sapopemba - São Paulo	Quantitative design; retrospective study; case-control study	C	IV
Lara, 2017	Casa de humanização e naturalização do parto. A arquitetura do ambiente de nascer.	Qualitative design, study to prepare an architectural proposal	F	VIII
Leal, 2018	Assistência ao parto em um centro de parto normal peri-hospitalar: percepção de puérperas	Qualitative design; interviews	D	II

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Chart 1. General characteristics of the reports included in the scoping review.

Author(s), year	Title	Methods	Birth center	Theme
Leister <i>et al.</i> , 2022	Complementary and Integrative Health Practices in a Brazilian Free-standing Birth Center: A Cross-Sectional Study	Quantitative design; retrospective study	J	VII
Lima <i>et al.</i> , 2018	Remoções neonatais do centro de parto normal peri-hospitalar para o hospital.	Quantitative design; retrospective study	I	IV
Lobo, 2009	Caracterização da assistência ao parto e nascimento em um centro de parto normal do município de São Paulo	Quantitative design; retrospective study	I	I
Loiola, 2018	Plano de parto: da idealização à construção pelas gestantes da Casa de Parto David Capistrano Filho	Qualitative design; interview	B	XI
Lopes, 2018	Desfechos perineais no centro de parto normal Casa Angela, São Paulo (SP): estudo transversal	Quantitative design; retrospective study	J	I
Löwy, 2018	The birthing house as a place for birth: contextualizing the Rio de Janeiro birthing house	Qualitative design; theoretical study	B	VI
Matos, 2019	Cidade e maternidade: uma análise através dos locais de parto e nascimento em Salvador	Qualitative design; theoretical study	L; F; J; C; B	III, VI
Moreira, 2019	O uso de plantas medicinais e fitoterápicos em Centro de Parto Normal: construção do protocolo assistencial	Qualitative design; Methodological development study	D	VII
Moura, 2009	Casa De Parto David Capistrano Filho: a participação das enfermeiras nas lutas do campo obstétrico	Qualitative design; historical social study	B	III
Nakazone, 2020	Fatores associados e desfechos no parto na água em um centro de parto normal peri-hospitalar: estudo transversal	Quantitative	J	I
Narchi <i>et al.</i> , 2010	Women's satisfaction with childbirth experience in different models of care: a descriptive study	Quantitative design; interviews	K	II
Nascimento, 2011	A contribuição das tecnologias não-invasivas de cuidado de enfermagem para o empoderamento feminino na gravidez e no parto: adaptação do modelo de promoção da saúde de Nola Pender	Qualitative design; case study	B	VII
Nicacio <i>et al.</i> , 2016	Perception of nurse midwives regarding their professional identity: a descriptive study	Qualitative design; interviews	B	V
Nonato, 2007	Humanização do parto nos contextos público e privado no Distrito Federal	Qualitative design; interviews e participatory observation	G	VI
Oliveira, 2013	Análise parcial dos custos do protocolo assistencial da Casa de Parto David Capistrano Filho/ Município do Rio de Janeiro: contribuição da enfermagem obstétrica	Quantitative design; retrospective study	B	XII

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Chart 1. General characteristics of the reports included in the scoping review.

Author(s), year	Title	Methods	Birth center	Theme
Oliveira 2017	Avaliação da assistência materna e neonatal em casa de parto	Quantitative design; retrospective study	B	I
Oliveira <i>et al.</i> , 2019	Adequacy of prenatal assistance in birth houses and causes associated with hospital transfers	Quantitative design; retrospective study	B	I, IV
Pereira, 2007	O Processo de Implantação da Casa de Parto no Contexto do Sistema Único de Saúde: Uma perspectiva do referencial teórico de Gramsci.	Qualitative design; interviews	B	III
Pereira, 2009	Hegemony and counter-hegemony in the process of implementing the Casa de Parto Birth Center in Rio de Janeiro	Qualitative design; interviews	B	III
Pereira and Bento, 2011	Autonomy in normal delivery from the perspective of women assisted in birthing center	Qualitative design; interviews	B	II
Pereira <i>et al.</i> , 2012	Maternal and neonatal care in David Capistrano Filho Birth Center, Rio de Janeiro, Brazil	Quantitative	B	I
Pereira <i>et al.</i> , 2013	Resultados maternos e neonatais da assistência em casa de parto no município do Rio de Janeiro.	Quantitative design; retrospective study	B	I
Pereira <i>et al.</i> , 2014	A escolha pelo atendimento em casa de parto e avaliação do cuidado pré-natal.	Quantitative design; opinion research	B	II
Prata and Progianti, 2013	A influência da prática das enfermeiras obstétricas na construção de nova demanda social.	Qualitative design, interviews	B	II
Progianti and Caixeiro-Brandao, 2012	Acolhimento na saúde da mulher: uma questão de respeito, solidariedade e humanização	Qualitative design; focus group	B	II
Progianti and Pereira, 2013	Capacitação de enfermeiras no Japão: contribuição para a implantação da casa de parto no Rio de Janeiro	Qualitative design; historical social study	B	III, V
Quitete, 2015	Atribuindo significados as enfermeiras obstétricas: uma construção social sob a ótica das usuárias na perspectiva do interacionismo simbólico	Qualitative design; interviews	B	II
Ramos, 2013	Casas de parto autônomas no contexto brasileiro: conflitualidades e sentidos em torno da humanização de partos e nascimentos	Qualitative design; interviews e participatory observation	G; B	III
Riesco <i>et al.</i> , 2009	Birth centers in Brazil: scientific production review	Narrative review	H; I; C; A	I
Rocha <i>et al.</i> , 2017	Análise da assistência ao binômio mãe-bebê em centro de parto normal.	Qualitative design; interviews	G	II
Salim, 2014	Contextos de nascimento: experiências, sentidos e práticas de cuidado	Qualitative design; ethnographic study	J	II, V

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Chart 1. General characteristics of the reports included in the scoping review.

Author(s), year	Title	Methods	Birth center	Theme
Santos, 2018	Comparação de desfechos maternos e neonatais em um centro de parto normal e hospitais públicos do SUS em partos de baixo risco	Quantitative design; retrospective study	A	I
Santos, 2019	Factors associated with low Apgar in newborns in birth center	Quantitative design; retrospective study	A	I
Schneck, 2009	Estudo comparativo dos resultados maternos e perinatais em centro de parto normal peri-hospitalar e hospital - São Paulo (SP)	Quantitative design; retrospective study	I	I
Schneck <i>et al.</i> , 2012	Maternal and neonatal outcomes at an alongside birth center and at a hospital	Quantitative design; retrospective study	I	I
Seibert <i>et al.</i> , 2008	Assistência pré-natal da Casa de Parto do Rio de Janeiro: a visão de suas usuárias.	Quantitative	B	I
Silva, 2011	Transferências maternas de uma casa de parto para o hospital: estudo caso-controle	Quantitative design; retrospective study	C	IV
Silva, 2014	Dignificação, participação e autonomia de mulheres atendidas por Enfermeiras em um Centro de Parto Normal	Qualitative design; non-participant observation, interviews and documental study	F	II
Silva, 2017	Casa Maria – A humanização da arquitetura no ambiente hospitalar.	Qualitative design; bibliographic analysis and case study	J; C	III
Silva, 2019	Por ambiências sensíveis nos lugares de nascer. Percepção e subjetividade nos centros de parto normal.	Qualitative and quantitative design; participatory observation and instrument application	B	VIII
Silva <i>et al.</i> , 2009	Maternal and neonatal characteristics and early neonatal mortality in Greater Metropolitan São Paulo, Brazil	Quantitative	K	I
Silva <i>et al.</i> , 2012 (a)	Factors associated with maternal intrapartum transfers from a freestanding birth centre in São Paulo, Brazil: A case control study	Quantitative design; retrospective study	C	I, IV
Silva <i>et al.</i> , 2012 (b)	Risk factors for birth-related perineal trauma: A cross-sectional study in a birth centre	Quantitative design; retrospective study	C	I
Silva <i>et al.</i> , 2013(a)	A risk model to predict probability of maternal intrapartum transfers from a free-standing birth centre: PROTRIP tool	Quantitative design; retrospective study	C	IV
Silva <i>et al.</i> , 2013(b)	Care in a birth center according to the recommendations of the World Health Organization	Quantitative design; retrospective study	C	I
Siqueira, 2017	O fechamento de uma casa de parto na perspectiva das ex-usuárias frente a uma nova gestação	Qualitative design; theoretical study	H	II
Siqueira and Gradim, 2017	Acolhimento na assistência em centros de parto: revisão Integrativa	Integrative review	C	I

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Chart 1. General characteristics of the reports included in the scoping review.

Author(s), year	Title	Methods	Birth center	Theme
Souza, 2018	Entre os conflitos e impasses do Parto Humanizado: uma etnografia na Casa de Parto David Capistrano Filho	Qualitative design; bibliographic study and interviews	B	VI
Teixeirense, 2018	From expectation to experience: humanizing childbirth in the Brazilian National Health System	Qualitative design; interviews	G	II
Viana, 2016	As trajetórias de mulheres assistidas em um centro de parto normal e sua relação com as escolhas no parto e no nascimento	Qualitative design; interviews	A	II
Vico, 2017	Avaliação da Implantação dos Centros de Parto Normal no Sistema Único de Saúde	Qualitative design; interviews and documental study.	A; F; G	III
Vogt <i>et al.</i> , 2011	Characteristics of labor and delivery care in three healthcare models within the Unified National Health System in Belo Horizonte, Minas Gerais State, Brazil	Quantitative design; retrospective study	A	I
Zveiter, 2011	O cuidado de enfermeiras obstétricas com-a-mulher-que-dá-à-luz-na-Casa-de-Parto: uma hermenêutica em Heidegger	Qualitative design; phenomenological study	B	V

Birth center: A = Sofia Feldman Hospital/MG; B = Realengo/RJ; C = Sapopemba/SP; D = Castanhal/PA; E = Nove Luas-Niterói/RJ; F = Mansão do Caminho/BA; G = São Sebastião/DF; H = Juiz de Fora/MG; I = Casa de Maria/SP; J = Casa Angela/SP; K = not mentioned; L = general. **Theme:** I = Evaluation of outcomes/indicators/care; II = Women's experiences/opinion of care received; III = birth center set up/implementation/trajectory/maintenance; IV = maternal and/or neonatal transfers; V = nurse/midwife experiences/care; VI = care model/philosophy adopted by the facility; VII = use of non-invasive technologies/integrative and complementary health practices; VIII = birth center ambience/architecture; IX = father's/companion's experience; X = educational groups/practices; XI = use of birth plans; XII = care and model costs.

Source: Authors.

Fifty-nine studies mentioned the referral hospital for maternal and/or neonatal transfers in the ten birth centers investigated. Of the studies that investigated transfers to referral hospitals separately as a maternal health outcome, Oliveira *et al.*²¹, Santos²², Silva²³, Silva *et al.*²⁴, Silva *et al.*²⁵ and Bonadio *et al.*²⁶ described the following risk factors: nulliparity, maternal age ≥ 35 , not having a partner, cervical dilatation on admission ≤ 3 cm, being in the first stage of labor and birthweight ≥ 4000 g. Intrapartum transfers were more frequent than postpartum maternal transfers. Some causes of transfer were also found, including prolonged rupture of membranes, presence of meconium, non-reassuring fetal heart rate and desire for epidural analgesia.

The following categories of care practices were identified in the birth centers: a) WHO good practices in intrapartum care⁷ (n = 66); b) use of integrative and complementary health practices (n = 51); c) prenatal appointments (n

= 51); d) educational groups (n = 33); and e) postpartum appointments (n = 29).

Of the 51 studies that describe the use of integrative and complementary health practices in birth centers, only one referred to the use of practices on newborns²⁷. The other studies overwhelmingly mentioned the use of these practices on women in labor, highlighting hydrotherapy (the use of a shower or a bath and foot baths, n = 42); massage and use of essential oils (n = 32); and postural therapies, such as the use of a birthing ball, pelvic swing, birthing/squat stool, and the squatting position (n = 31).

All the ten studies that compared the models of care adopted by different services showed that results were more favorable in FBCs than in conventional hospitals.

Twenty-nine qualitative studies described the experiences of women in FBCs. The most cited words, excluding the index terms "birth" and "woman(women)", are shown in Figure 3.

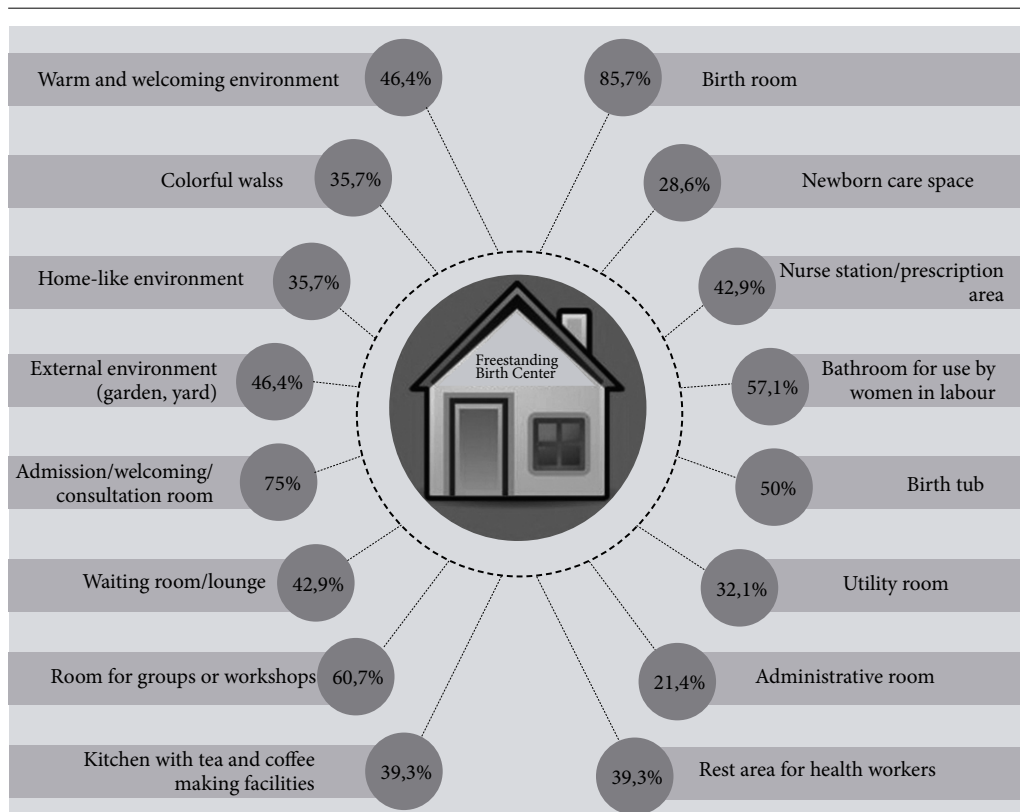


Figure 2. Elements of the physical structure of freestanding birth centers and respective frequency of the description of these elements by studies*.

*Only studies that detailed physical structure were included.

Source: Authors.

Discussion

This review encompassed ten FBC, two of which no longer exist. The rest are under contract with the SUS and each had more than 100 births in 2019²⁸. According to the National Registry of Health Facilities²⁹, 25 health facilities are registered as FBCs in Brazil; however, it is believed that not all these facilities are functioning as a FBC. According to a survey conducted by the authors, 13 are FBCs, seven are ABCs, and one is an outpatient setting. Our attempts to contact the remaining services to confirm the classification of the facility were unsuccessful.

With regard to the topics addressed by the reports included in this review, there was a predominance of studies quantifying maternal and perinatal outcomes and studies investigating women's experiences in these birth settings.

FBCs are counter-hegemonic facilities that question many of the practices adopted

in conventional hospitals and maternity units, investing in evidenced-based care centered on the needs and well-being of women and their babies. These facilities are often the object of criticism and opposition because they are resistant to the hegemonic biomedical model of care for women with a straightforward pregnancy. The studies conducted by Diniz³⁰, Moura³¹ and Hauck³² portray the constant struggle to create and maintain FBCs. In this sense, the thematic pattern of the studies included in this review may present itself as a response to the frequent questions raised about the effectiveness and efficacy of this model of care in the Brazilian context.

With regard to the physical structure of FBC, the most commonly mentioned spaces by the studies included were birth rooms. With the changes in the regulation of obstetric care services³³, incorporating these settings into the *Rede Cegonha*³⁴, the provision of birth rooms,

Table 1. Prevalence interventions during labor and birth. care characteristics and neonatal outcomes in FBC.

Author, year	N	FBC	AMN	OX	EPIS	Perineum			
						PI	1°G	2°G	3° or 4° DG
Barros, 2017	8	B	-	-	-	-	-	-	-
Campos, 2003	2117	A	38.9%	42.7%	15.9%	-	-	-	0.8%
Campos and Lana, 2007	2117	A	-	-	-	-	-	-	-
Fernandes <i>et al.</i> , 2011	58	H	-	-	-	-	-	-	-
Lobo, 2009	991	I	62.6%	-	22.4%	42.2%	22.4%	7.3%	-
Lopes, 2018	415	J	6.5%	6.3%	0.0%	11.8%	61.9%	11.8%	0.0%
Nakazone, 2020	473	J	4.7%	1.9%	0.0%	15.6%	63.4%	20.6%	0.4%
Oliveira, 2017	330	K	5.8%	34.2%	1.2%	-	61.1%	17.3%	0.3%
Oliveira <i>et al.</i> , 2019	482	B	-	-	-	-	-	-	-
Pereira <i>et al.</i> , 2012	1477	I	-	-	3.9%	22.5%	82.4%	-	0.3%
Pereira <i>et al.</i> , 2013	458	B	11.1%	45.0%	-	-	-	-	-
Riesco <i>et al.</i> , 2009	4493	A. C. H I	H: 30.6%; C: 51.9%	H 34.8%; C: 33.7%	H: 24.7%; C: 16.2%	H: 60.6%; C: 64.5%	-	-	-
Santos, 2018	1561	A	54.0%	21.5%	6.7%	-	-	-	-
Santos, 2019	9585	A	-	30.7%	-	-	-	-	-
Schneck, 2009	991	I	71.3%	23.6%	25.7%	66.8%	-	7.5%	-
Schneck <i>et al.</i> , 2012	1316	I	71.1%	26.7%	-	-	-	-	-
Silva <i>et al.</i> , 2009	189	I	-	-	-	-	-	-	-
Silva <i>et al.</i> , 2012 (b)	1079	C	53.4%	31.0%	14.1%	43.6%	31.9%	10.3%	-
Silva <i>et al.</i> , 2013(b)	1079	C	53.4%	-	14.1%	-	-	-	-
Vogt <i>et al.</i> , 2011	277	A	67.6%	27.9%	7.2%	-	-	-	-

Author, year	Position				Neonatal outcomes						
	Semi sitting	Lithotomy	Other	Comp	SSC	BF 1 ^h	UAA	AVG	< 7 1°min	< 7 5° min	Fetal death
Barros, 2017	-	-	-	100.0%	87.5%	87.5%	-	12.5%	-	-	-
Campos, 2003	-	-	-	-	-	-	-	-	4.1%	1.0%	0.2%
Campos and Lana, 2007	-	-	-	-	-	-	-	-	4.1%	1.0%	0.2%
Fernandes <i>et al.</i> , 2011	-	-	-	-	-	-	-	-	6.9%	1.7%	1.7%
Lobo, 2009	-	-	-	92.2%	-	-	9.3%	1.8%	0.4%	0.1%	-
Lopes, 2018	30.8%	0.2%	69.0%	99.5%	-	-	-	-	3.4%	0.0%	-
Nakazone, 2020	55.8%	-	44.2%	-	99.8%	97.4%	3.2%	-	2.1%	0.0%	-
Oliveira, 2017	-	2.4%	-	100.0%	98.2%	83.9%	-	-	2.1%	0.0%	-
Oliveira <i>et al.</i> , 2019	-	-	-	-	-	-	-	-	-	2.7%	0.2%
Pereira <i>et al.</i> , 2012	20.0%	-	50.9%	94.9%	-	-	-	-	4.4%	0.3%	0.1%
Pereira <i>et al.</i> , 2013	-	4.1%	84.3%	94.1%	-	-	-	-	4.8%	0.2%	-

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Table 1. Prevalence interventions during labor and birth, care characteristics and neonatal outcomes in FBC.

Author, year	Position				Neonatal outcomes						
	Semi sitting	Lithotomy	Other	Comp	SSC	BF 1 ^h	UAA	AVG	< 7 1 ^o min	< 7 5 ^o min	Fetal death
Riesco <i>et al.</i> , 2009	-	0.0%	-	H: 93.8%	H: 89.3%	-	C: 9.3%	-	-	A = 0.8%; C = 1.1%; H = 0.6%; I = 1.4%	0.0019%
Santos, 2018		3.9%	60.3%	96.7%	95.2%		34.5%		3.9%	0.9%	0.0%
Santos, 2019	-	-	-	78.9%	-	-			-	-	-
Schneck, 2009	-	-	-	-	-	-	9.3%	1.8%	0.4%	0.1%	-
Schneck <i>et al.</i> , 2012	-	-	-	-	-	-	10.7%	1.8%	4.0%	-	-
Silva <i>et al.</i> , 2009	-	-	-	-	-	-	-	-	-	0.0%	0.0%
Silva <i>et al.</i> , 2012 (b)	82.3%		17.7%	-	-	-	-	-	-	-	-
Silva <i>et al.</i> , 2013(b)	82.3%	-	-	94.5%			7.0%	3.7%	0.8%	0.0%	-
Vogt <i>et al.</i> , 2011	-	-	-	-	-	-	-	-	-	0.0%	-

N: number of study participants; **AMN:** amniotomy; **OX:** oxytocin; **EPIS:** episiotomy; **PI:** intact perineum, **1st DG:** 1st degree tear, **2nd DG:** 2nd degree tear, **3rd or 4th DG:** 3rd or 4th degree tear; **COMP:** presence of a companion; **SSC:** skin-to-skin contact; **BF 1st h:** breastfeeding during the first hour after birth; **UAA:** upper airway aspiration; **NGT:** nasogastric tube; **< 7 1 min:** Apgar score <7 at 1 minute; **< 7 5 mins:** Apgar score < 7 at 5 minutes.

FBC: **A** = Sofia Feldman Hospital/MG; **B** = Realengo/RJ; **C** = Sapopemba/SP; **D** = Castanhal/PA; **E** = Nove Luas-Niterói/RJ; **F** = Mansão do Caminho/BA; **G** = São Sebastião/DF; **H** = Juiz de Fora/MG; **I** = Casa de Maria/SP; **J** = Casa Angela/SP; **K** = not mentioned; **L** = general.

Source: Authors, 2023.

together with other spaces such areas for walking around (terrace/solarium) and bathtubs, favors the creation of a welcoming environment that potentially promotes the good intrapartum and neonatal care practices recommended by the WHO⁷. Unlike FBCs (where birth rooms are mandatory), most spaces in conventional hospitals and maternity units are unfavorable to women and their companions, often failing to maintain privacy and restricting mobility³³. In a study assessing 600 labor and childbirth care facilities in Brazil, Pasche *et al.*³⁵ found that only 11.7% had birth rooms and hospitals and maternity units with shared labor rooms remained common, with 38.4% of beds being separated only by curtains or screens and 30% without any form of separation.

FBCs provide care for women with a straightforward pregnancy and teams should therefore be composed minimally of a midwife/nurse midwife, auxiliary nurse and general services assistant². The dispensability of a physician in this care model is frequently criticized in different segments of society due to the country's medical-centered culture. However, this concept goes against the prevailing legisla-

tion, which recognizes that midwives and nurse midwives are qualified to provide labor and childbirth care³⁶. In addition, studies using gold standard evidence demonstrated positive results when women and babies receive care from these professionals. A systematic review by Sandall *et al.*³⁷ comparing models of care led by midwives and nurse midwives and other models involving more than 17,000 women found that the former increased the chances of spontaneous vaginal birth and maternal satisfaction and decreased the chances of instrumental vaginal birth, preterm birth (< 37 weeks of gestation), and fetal loss/neonatal death.

Regarding the activities developed by FBCs, our findings show that, besides prenatal and postnatal appointments, educational groups were also common in these facilities. Educational actions are present in various health policies in Brazil, such as the Prenatal and Childbirth Care Humanization Policy (PHPN)³⁸, *Rede Cegonha*³⁹ and National Policy for Popular Health Education (PNEPS-SUS)⁴⁰. In addition to health promotion and disease prevention, health education is an important mechanism for promoting patient empowerment. It is therefore



Figure 3. Word cloud showing the most frequent words in the studies describing women's experiences in freestanding birth centers.

Words (most to least cited): Environment; health care; professionals; respect; bond; choice; antenatal care; relationship; health; support; humanized; satisfaction; autonomy; assistance; team; presence; interventions; care; liberty; physiology; plan; childbirth; possibility; companion; practices; experience; welcoming; relief.

Source: Authors.

consistent and appropriate that FBCs develop educational activities, given their commitment to promoting maternal autonomy and involvement in decision making.

The limited number of studies describing form of access to FBC may be seen as a significant gap in the literature. Understanding the care pathway taken by pregnant women, women in labor and postpartum women is essential to enable the evaluation and maintenance of the referral and counter-referral system within the SUS and provide transparency in the care arrangements presented by the private health sector. The Health Care Network (RAS)⁴¹ within the SUS was established in 2010 with the aim of guaranteeing comprehensive care through the organization of services in different levels of care. With primary care as its cornerstone, the RAS plays an essential role in ensuring continuity of care for pregnant and postpartum women. Through the network, pregnant women can start prenatal care in a timely manner, do exams, receive specialized care from a range of different services and are guaranteed a place for birth. However, studies such as the one conducted by

Brondani *et al.*⁴² have highlighted lack of coordination and communication across health services, which can explain the underutilization of some, if not all, FBCs across the country.

The most common FBC care practices identified by the studies in this review (respect for women's autonomy/shared decision-making/informed choice, evidenced-based care, patient-professional bonding and feeling safe with and confident in care providers) are consistent with the WHO recommendations for a positive childbirth experience⁷. According to the report, optimal evidence-based care includes respectful maternity care that enables informed choice and continuous support during labor and childbirth, maintaining women's dignity, privacy and confidentiality.

While women's rights were not guaranteed in 100% of the cases in the studies that addressed this indicator, high rates of companionship during stays in the birth center (mean of 94.5%) were observed, especially when compared to the findings of national studies. The "Birth in Brazil" survey showed that only 18.8% had a companion continuously during their stay in hospitals and maternity units⁴³.

Also, regarding the WHO recommendations⁷, the adoption of good intrapartum practices play a crucial role in promoting a positive experience for women. Encouraging the use of integrative and complementary health practices during labor, for example, was a recurring theme in the studies included in this review. Common practices included hydrotherapy (the use of a shower or a bath and foot baths), massage and the use of essential oils, and postural therapy (the use of an exercise ball, pelvic swing, birthing/squat stool, and the squatting position), which are beneficial according to Berta *et al.*⁴⁴, Cluett *et al.*⁴⁵ and Smith *et al.*⁴⁶. However, only one study mentioned the use of integrative and complementary health practices on infants. The articles that addressed good neonatal care practices, such as skin-to-skin contact and breastfeeding during the first hour after birth, noted that rates were higher than those found by national studies investigating births of healthy babies in hospitals and maternity units⁴⁷.

With regard to maternal interventions, episiotomy continues to be used indiscriminately around the world despite solid evidence that this procedure is not beneficial to women and babies^{7,48}. In a study assessing a zero-episiotomy protocol, Amorim *et al.*⁴⁹ found very positive perineal outcomes, with most women having

an intact perineum or first-degree perineal tear without suturing. The present review found that the rates of selective use of episiotomy (< 15% in most studies) and positive perineal outcomes (< 0.5% for third- or fourth-degree perineal tear) in FBCs are close to those expected under a minimal intervention model of care guided by the best available evidence. In contrast, using data from the Birth in Brazil Survey, Leal *et al.*⁵⁰ reported that, in hospitals, episiotomy was performed in 56% of women with no complications during birth.

Conversely, in general, the prevalence of the use of oxytocin and amniotomy in the FBCs covered by this review was close to the rates found in hospitals⁵⁰, with the highest rates being identified in birth centers within their referral hospitals (Sofia Feldman-MG and the defunct Casa de Maria). The lowest rates (6.5% for amniotomy and 6.3% for oxytocin) were observed in Casa Angela/SP, which is located close to its referral hospital and has a history of financial autonomy and sustainability (period 2009-2015).

FBCs are expected to show lower rates of neonatal deaths than hospitals (as shown by the present review) due to rigorous obstetric risk assessment guided by admission criteria. The likelihood of neonatal death is higher in hospitals because they provide care for women with complicated pregnancies, malformations, preterm births, and most maternal and perinatal complications. However, Lansky *et al.*⁵¹ demonstrated that neonatal mortality is also directly related to aspects of care, including the use of good childbirth practices (use of a partograph, upright birthing position, etc.), which was almost an exception rather than rule according to the findings of the Birth in Brazil Survey. The risk of neonatal death in hospitals was five times higher in women who did not receive good childbirth practices.

With regard to the large variation found in maternal and neonatal transfer rates across FBCs, the highest rates were observed in the Realengo/RJ birth center, which has suffered years of political persecution and come under intense pressure to shut down, being closed temporarily on two occasions (in 2009 and 2017)⁵². One might wonder, therefore, to what extent these threats affect the decisions of professionals regarding maternal and neonatal transfer criteria. The transfer rates reported in

the studies included in this review are invariably similar to those found in countries like Australia, Ireland and England⁵³⁻⁵⁵.

Many of the results of the quantitative studies included in this review concur with the results of the qualitative studies. The most frequently occurring words (Figure 3) in the qualitative studies were <environment>, <respect>, <bond>, <autonomy>, <satisfaction> and <choice>, suggesting that FBCs in Brazil not only comply with the guidelines and regulations governing the functioning of these facilities², but are a core component of the biopsychosocial model of care, in which women and their babies are protagonists of their birth stories and have a positive, safe and optimal birth experience⁷.

Conclusions

Seeking to answer the question “What are the characteristics of the model of care in freestanding birth centers in Brazil?”, the results of this review reinforce that care delivery in these settings is grounded in the biopsychosocial model of health care. Birth centers acknowledge and consider the multidimensional needs of women and other people with a uterus, their babies and families, and therefore provide physical, organizational and philosophical structures that have a positive impact on the quality of childbirth and neonatal care in the country.

The literature on FBCs in Brazil also demonstrates that these health facilities play an important role in promoting positive childbirth experiences. However, barriers to the implementation of this model of care remain, exemplified by the underutilization of services due to the socio and political context or difficulties in expanding FBCs across the country.

Finally, this scoping review identified some gaps in the literature on FBCs in Brazil, including the following areas: comparison of care provided to women with a straightforward pregnancy in birth centers and conventional hospitals and maternity units; access; birth center care pathways; care for vulnerable women and other people with a uterus; prenatal and postpartum care provided by FBCs; and infant care in birth centers, including data on good practices and integrative and complementary health practices.

Collaborations

CA Aguiar contributed to conceiving the idea for the article, processing and analysing the data, leading the writing of the original manuscript, formatting it and revising the final version. GA Lopes processed and analysed the data and wrote the article. JCC Bussadori took part in conceiving the idea and writing the manuscript. N Leister contributed to the conception of the article, its writing and revision. MLG Riasco and BD Alonso participated in writing and revising the article.

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