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Facilitating and limiting factors for nurses' role in controlling COVID-19 in childbirth care

Fatores facilitadores e limitadores da atuação das enfermeiras no controle da COVID-19 na assistência ao parto

Factores facilitadores y limitantes para el papel del enfermero en el control de la COVID-19 en la atención del parto

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Abstract

Objective: to discuss the facilitating and limiting factors of nurses' performance in controlling COVID-19 in childbirth care. **Methods:** a descriptive and qualitative study, with 20 nurse-midwives from public services in the state of Rio de Janeiro. Data were collected from May to July 2021, through semi-structured interviews, and submitted to thematic content analysis. **Results:** as facilitating factors there are: physical installations and resources that provide individualized use; protocol implementation; reorganization of collective environment use; and preference for care that does not require instruments or nurses' continuous presence. As limiting factors, the following stand out: high demand for care; restricted accommodation and inadequate ventilation; lack of resources; resistance to wearing a mask; nurses' difficulty in maintaining physical distance in care; and increase in interventionist practices among certain professionals. **Conclusions and implications for practice:** services that underwent adaptations in environments, with available resources, co-responsibility regarding sanitary measures and where nurse-midwives modified their care process, presented better conditions to protect health and mitigate COVID-19 transmission, with attention to environment, humanization and women's rights during childbirth.

Keywords: COVID-19; Humanization of Assistance; Maternity; Natural Childbirth; Nurse Midwives.

Resumo

Objetivo: discutir os fatores facilitadores e limitadores da atuação das enfermeiras no controle da COVID-19 na assistência ao parto. **Métodos**: estudo descritivo e qualitativo, com 20 enfermeiras obstétricas de serviços públicos do estado do Rio de Janeiro. Os dados foram coletados de maio a julho de 2021, por entrevistas semiestruturadas, e submetidos à análise de conteúdo temática. **Resultados**: como fatores facilitadores, têm-se: instalações físicas e recursos que proporcionam o uso individualizado; implementação de protocolos; reorganização do uso de ambientes coletivos; e preferência por cuidados que não requerem instrumentos ou a presença contínua da enfermeira. Como limitadores, apontam-se: a alta demanda assistencial; acomodações restritas e ventilação inadequada; carência de recursos; resistência ao uso de máscara; dificuldades das enfermeiras em manter o distanciamento físico nos cuidados; e incremento de práticas intervencionistas entre determinados profissionais. **Conclusões e implicações para a prática:** serviços que passaram por adequações nos ambientes, com recursos disponíveis, corresponsabilização acerca das medidas sanitárias e onde as enfermeiras obstétricas modificaram seu processo de cuidar, apresentam melhores condições para proteger a saúde e mitigar a transmissão da COVID-19, com atenção à ambiência, humanização e aos direitos das mulheres no parto.

Palavras-chave: COVID-19; Enfermeiras Obstétricas; Humanização da Assistência; Maternidade; Parto Normal.

Resumen

Objetivo: discutir los factores facilitadores y limitantes de la actuación de los enfermeros en el control de la COVID-19 en la atención al parto. **Métodos:** estudio descriptivo y cualitativo, con 20 parteras de servicios públicos del estado de Río de Janeiro. Los datos fueron recolectados de mayo a julio de 2021, a través de entrevistas semiestructuradas, y sometidos a análisis de contenido temático. **Resultados:** como factores facilitadores, se encuentran: instalaciones físicas y recursos que brindan un uso individualizado; implementación de protocolos; reorganización del uso de los entornos colectivos; y preferencia por cuidados que no requieran instrumental o la presencia continua de la enfermera. Como limitantes, se destacan: la alta demanda de atención; alojamiento restringido y ventilación inadecuada; falta de recursos; resistencia a usar mascarilla; dificultades de las enfermeras para mantener la distancia física en el cuidado; y el aumento de las prácticas intervencionistas entre determinados profesionales. **Conclusiones e implicaciones para la práctica:** los servicios que sufrieron adaptaciones en los ambientes, con recursos disponibles, corresponsabilidad en las medidas sanitarias y donde las matronas modificaron su proceso de atención, presentan mejores condiciones para proteger la salud y mitigar la transmisión de la COVID-19, con atención al ambiente, la humanización y los derechos de la mujer durante el parto.

Palabras-clave: COVID-19; Enfermeras Obstetrices; Humanización de la Atención; Maternidades; Parto Normal.

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INTRODUCTION

The COVID-19 pandemic has brought unprecedented challenges to the world's population, given the lack of knowledge about the disease and its impacts on health systems.[1] In this context, the risk of morbidity and mortality was decisive in defining risk groups, where pregnant and puerperal women were included.[2] Corroborating this, Brazilian data on the maternal mortality ratio from 2019 to 2021 reveal an increase of 94%, going back to levels of two decades ago.[3]

In view of this scenario and in order to reduce the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) transmission, recommendations have been established for disease control in obstetric services, including: strict handwashing protocols and mandatory mask wearing for everyone; adoption of standard precautions and contact precautions for health professionals; changes in care routines and physical spaces, with emphasis on offering environments and instruments for individual use, respect for physical distancing in care and maintaining a minimum distance of two meters between beds in childbirth rooms and collective wards.[2,4]

However, considering the structural weaknesses of many Brazilian maternity hospitals,[5] the effects of these recommendations on the environment of obstetric and neonatal care services can be seen, defined as the physical, social, professional environment and interpersonal relationships that is shared by a group of people who exchange experiences of work and care, permeated by values, meanings and belonging.[6,7]

In this regard, it involves the organization of environments that promote comfort, acceptance and the production of subjectivities in human interactions in health work that provide comprehensiveness, equity, qualification and safety of care, optimizing resources and guaranteeing users' and workers' rights. Thus, a humanized and functional architecture is constituted that provides care spaces for actions, reflections and pleasurable and resolving experiences.[7,8]

From this point of view, nurse-midwives act using environments as facilitators of normal childbirth care and consider the elements that interfere with the relationships between individuals, such as privacy, individuality, physical facilities, light, smell, sound, synesthesia, art and color. In this way, the process of caring for parturient women is configured as a care centered on women, which constitutes a therapeutic and emancipating experience.[8-10]

Considering the above, this article aimed to discuss the facilitating and limiting factors of nurses' performance in COVID-19 control in childbirth care. This research is relevant, because it reveals the daily challenges of obstetric services and the potential of nurse-midwives' performance in a context that values high health surveillance, offering subsidies for the development of actions to control the spread of COVID-19 in childbirth care and minimize the impacts of the pandemic on the appropriate environment in this area of care.

METHOD

Study design

This is a descriptive and exploratory study, with a qualitative approach, which followed the COnsolidated criteria for REporting Qualitative research (COREQ) guidelines.

Participants

Participants were 20 nurse-midwives, adopting as an inclusion criterion caring for parturient women during the pandemic in obstetric services in the state of Rio de Janeiro. Specialists who have been developing care activities in this area for less than a year and those who work in the private network were excluded.

It should be noted that eight nurses, who met the inclusion criteria, refused to participate in the research, justifying the lack of time due to work overload in times of a pandemic. Furthermore, there were no withdrawals from participation during data collection.

Data collection procedures

Data were collected from May to July 2021 through semi-structured individual interviews carried out by three authors, previously trained resident nurses who took turns conducting the interviews.

To this end, a script was prepared with 06 closed-ended questions about socio-professional data, such as sex, age, academic background, length of experience in nursing-midwifery, employment relationship with the obstetric service and type of health establishment in which they work. In addition to this, the script included the following open questions: tell me about your perceptions about the factors that may influence COVID-19 control in childbirth care. Were environments, resources, people and childbirth care influenced by the pandemic context? How?

To gather participants, the snowball technique was used, in which an individual with the appropriate profile for the research is selected as the first interviewee, called a seed, which indicates other potential participants, with the desired characteristics, and so on until the sampling becomes saturated, i.e., there are no new indications or the suggested names do not add new information.[11]

The study had three intentionally selected seeds, based on the researchers' network of contacts with residency preceptors, who met the inclusion criteria. Thus, three indication chains were constituted and initial contact with potential participants took place through a message application, for clarification about the research and invitation to participate. Upon acceptance, the Informed Consent Form was shared in electronic form format, and the virtual interview was scheduled.

Faced with the pandemic context, the interviews took place by videoconference on the date chosen by participants and carried out by three authors, resident nurses. The interviews were attended by one of the interviewers and

the participant, and lasted an average of 40 minutes. With due consent, they were recorded using a screen and audio recorder application. Subsequently, the material was fully transcribed with the support of a word processor (Word), and sent by email to participants for content validity, without any negative feedback from them.

It should be noted that the instrument was previously tested with the seeds, which were included in the study, as no adjustments were necessary.

Data analysis

Data were submitted to thematic content analysis.[12] In the pre-analysis stage, text skimming was carried out according to the criteria of exhaustiveness, representativeness, homogeneity and pertinence. Next, the recording units (RU) and context of each interview were identified, with the screening of significant clippings, followed by RU grouping into categories, conforming the exploration and categorization stage. Inductive thematic saturation was adopted to finalize the reference chain, i.e., when there was no emergence of new codes or themes in the analysis phase, which was obtained in the eighteenth interview. When conducting two more interviews to confirm saturation, it was ratified and data collection ended.[13]

This analytical process resulted in the constitution of two analytical categories: "Factors related to the infrastructure of obstetric services"; and "Factors associated with the human component". Finally, data were interpreted, with researchers' inferences about what emerged in the researched group, in dialogue with the scientific knowledge already produced.

Ethical aspects

The study was approved by the Research Ethics Committee of the *Universidade do Estado do Rio de Janeiro* on February 1, 2021, under CAAE (*Certificado de Apresentação para Apreciação Ética* - Certificate of Presentation for Ethical Consideration) 42419121.0.0000.5282, Opinion 4,518,637.

The research was developed respecting Resolution 466/2012 of the Brazilian National Health Council. The materials transcribed from the interviews are under the custody of one of the authors, stored on a free internet provider for a period of 5 years, and participants' anonymity was ensured by adopting the letter "N", referring to "nurse", accompanied by a number, referring to the order in which the interview was carried out.

RESULTS

Participants are female, and most are aged between 30 and 35 years old as well as obtained the title of specialist through training in the residency modality. About the length working in the specialty, two have been working for up to 5 years; thirteen have been working between 5 and 10 years; and five have worked for more than 10 years. With regard to the employment relationship, twelve are statutory public servants and eight are hired under a CLT (Consolidation of Brazilian Labour Laws) regime, with 15 working in maternity hospitals and 5 in childbirth homes.

Factors related to the infrastructure of obstetric services

This category shows that obstetric services' physical environments and resources are facilitating or limiting factors in COVID-19 control in childbirth care. In this regard, participants recognize that facilities and material resources available, by providing the individualized use of spaces and care instruments, are factors that contribute to mitigating the risk of contamination.

> [...] *we have several balls! If one woman is using one ball, we can get the other one on another*. (N1)

> […] *they are free to choose the shower* [warm aspersion] *because we have suites with a bathroom and so they have no contact with anyone*. (N4)

> *PPP rooms* [pre-childbirth, childbirth and post-childbirth] are *private rooms equipped with a bed, with RHU* [Radiant Heat Unit] *and material for resuscitation. One of these rooms has a bathtub, two have a bathroom with a shower and one has a bathtub next to the bed!* (N9)

> *They are suites with a very large bathroom! They have the* [care] *technologies, such as: birthing stool, stool, bars. All of this is available in every PPP room* [with pre-childbirth, childbirth and post-childbirth beds]. (N13)

On the other hand, the obstetrical nurses point out that the high demand for care, the absence of exclusive-use bathrooms and the fact that the sectors are small, with restricted accommodation and inadequate ventilation conditions, are shown to be limiting factors, as they increase exposure to the new coronavirus:

> *Our demand is very high, the physical space is very small and is not divided by boxes! We still need to make the separations with the room dividers.* (N8)

> *The childbirth room does not have a suite or exclusive bathroom. So, offering a warm bath is harmed...* (N7)

> *The space is not a facilitator because it is small, with a large number of women giving birth...* [...] *and the space in the boxes is reduced!* (N5)

> *It is a closed sector, with only two windows!* (N1)

> *Childbirth happens in heat! No air conditioning or any air circulation*. (N18)

Added to this scenario is the lack of material resources needed to cope with COVID-19 in childbirth care, highlighting weaknesses in the availability of diagnostic tests, Personal Protective Equipment (PPE) and some instruments used in care adequately sized to the care demand.

> *I am afraid of the issue of contact with parturient women, as we see a huge number of pregnant women with COVID-19 and we only find out later because there is no test available on the network…* (N3)

> *At the beginning, the unit did not have enough masks for the number of professionals and consultations because, especially in the maternity ward, we are not in the habit of wearing a mask in various procedures. It was a panic in the team. Mask and face shield were not available for everyone!* (N13)
>
> *We have two stools and a birthing stool, but using them is difficult because you take these instruments to a contaminated environment and then have to decontaminate them. So, we are using less.* (N7)

Factors associated with the human component

This category reveals that behaviors, attitudes and conduct of nurses, health professionals, parturient women and companions are factors that contribute to or hinder COVID-19 control in childbirth care. As behaviors that confer health protection, the nurse-midwives in this study refer to PPE use intensification and the guidelines on the importance of using masks with women and companions.

> *I started using respiratory barriers* [precautionary measures], *using the N95 type mask and the face shield*… (N2)
>
> *I advise her to move freely, as long as she wears a mask. I ask the companion to wear a mask and stay close to the bed while they are not there.* (N16)
>
> *We advise them to understand the importance of preventing themselves* [from contagion] *through mask use.* (N21)

Moreover, they cite changes in childbirth care arising from the implementation of institutional protocols, which include professional attitudes and conduct to avoid crowding, ensure physical distancing and reduce exposure to body fluids. Additionally, they mention changes in their care process, involving the reorganization of collective environment use, encouraging the companion's participation and the preference for care that does not require instrument use or nurses' continuous presence:

> *In order not to generate too much crowding, I go to the bathroom and leave a maximum of three women in a room* [specific environment for using care technologies] *and they take turns: one is on the ball, the other on the birthing stool* [rocking chair] *and another on the* [childbirth] *stool. Sometimes, I take the ball or the stool to the bed so that they are more isolated.* (N14)
>
> *According to the literature, we stopped manipulating the placenta and amniotic fluid and avoided* [baby] *exposure to amniotic fluid, with a reduction in possible interventions, such as* [amniotic] *bag rupture.* […] *we are using free movement and bathing more because they are things they can do alone and do not need equipment that will have contact with other people.* [...] *thus, we train the companion and the woman to use the technologies. Thus, we reduce our presence and our touch a little... we keep a distance, but we remain with care.* (N4)
>
> *We have not assisted childbirth in water, as it is prevented until there is new evidence. We leave the water just for relaxation!* (N10)
>
> *For the massage, we encouraged more participation of the companion, to reduce our contact, the touch with parturient women* (N12)

However, participants identify behaviors, attitudes and conduct that do not favor COVID-19 control in childbirth care, highlighting: resistance of some parturient women to mask use in the parturition process; nurses' difficulty in maintaining physical distance in the care relationship with women; and increase in interventional obstetric practices by certain professionals.

> *The woman can't wear a mask in childbirth! She can't breathe, feel pain, contract... I can't do any different! You see that the woman needs a welcome, you go there and give her a hug! There's no way! It is inherent to the profession!* (N10)
>
> *I even forgot I had COVID-19! That I had to keep the distance, that I couldn't have close contact and that I could catch it. It's a woman in labor who holds your hand and you can't help but hold your hand because there's COVID-19!* (N11)
>
> *I see a lot of unnecessary performance in the pandemic! I can see a lot of anxiety and not giving the woman time* [labor]. *They come in with drug interventions! I see a lot of the Kristeller maneuver and a lot of episiotomy!* (N8)
>
> *She* [referring to the medical professional] *speeds up the delivery a little, even with the patient dilating quickly! Performs cervical reduction from the end of labor until birth…* (N9)

DISCUSSION

The results show that different factors interfere positively or negatively in the performance of nurse-midwives regarding COVID-19 control in childbirth care. In this regard, factors related to the infrastructure of obstetric services are evident, covering physical environments and material resources as well as factors associated with the human component, expressed in behaviors, attitudes and conduct of nurses, health professionals, parturient women and companions.

As infrastructure factors that collaborate to mitigate the risk of contamination, the participants point to the sector's facilities, which have PPP rooms or private suites, with a large bathroom and instruments used in care, such as a bathtub, shower, Swiss ball, birthing stool, stool and support bars. Thus, they recognize that these physical environments and material resources provide individualized use, comfort and safety necessary for the parturition process in times of a pandemic.

From the perspective of obstetric services' environment, it is recommended that accommodations be designed in the format of PPP rooms, with appropriate dimensions, attached bathroom and equipment that allow parturient women access conditions and choice of active movement, companion participation and non-pharmacological methods of pain relief.[5-7] In the context of COVID-19, this infrastructure contributes to disease control, because, by providing assistance to be developed in individualized spaces, parturient women and companions are prevented from having unnecessary contact with other people and sharing objects, with respect to measures to maintain physical distance and avoid crowds as well as the right of women to respectful and safe childbirth.[14,15]

On the other hand, exposure and risk of contamination by the new coronavirus increase in institutions that have small sectors with restricted accommodation, inadequate ventilation conditions, without bathrooms for exclusive use or where the lack of care instruments implies sharing them among the parturient women, as identified in participants' speeches. Unfortunately, this is the reality of many Brazilian institutions, in which childbirth rooms with beds separated by curtains and the absence of individual equipment for non-pharmacological pain management and private bathrooms with shower and hot water persist, especially in obstetric services with a high-risk maternal and fetal care profile.[5,16,17]

The non-compliance of these places with the recommendations for an adequate environment for childbirth[6,7] adds to the difficulties faced in the adoption of preventive measures and COVID-19 control in the face of the high demand absorbed by health services in the course of the pandemic, as verified in this study. In this way, it becomes even more challenging to use collective spaces and avoid sharing objects, because in closed environments, normally without adequate ventilation, people interact frequently and in close physical proximity, enhancing airborne and SARS-CoV-2 contact transmission.[14]

Regarding the latter, it should be noted that contamination occurs through direct contact with contaminated objects and surfaces, without subsequent disinfection and hand hygiene.[14] Corroborating this, studies show that the new coronavirus survives for minutes or hours on porous surfaces and even for weeks on non-porous surfaces, and this ability is influenced by environment temperature and humidity.[18] In this regard, the increased risk of contamination by this route in childbirth care is considered, especially in services with inadequate physical environments and a lack of instruments used in care, considering: the materials of these objects, which are made of smooth and porous plastic, fabric and metal;[19] the childbirth environment temperature, which should remain around 26º C;[20] and humidity inherent to the female body physiology during labor.[10,15]

Added to this overview is the global problem of shortages of essential inputs to face COVID-19. It is noted that more solid health systems were successful in surveillance, as in China and South Korea, or in reducing mortality, as is the case in Germany. However, countries with a history of weakening public services were less efficient, resulting in higher rates of illness and death among health professionals.[1,21]

In the Brazilian context, the lack of PPE and the lack of diagnostic tests culminated in low testing of the population and underreporting of cases,[14,22] and this scenario was recognized by participants as an infrastructure factor that imposes limits on the new coronavirus control in childbirth care. Thus, occupational exposure in Brazilian obstetric services is considered high,[22] as evidence related to pregnant women, parturient women and postpartum women with COVID-19 shows that: clinical course of the disease is aggravated; risk factors increase the probability of symptomatic conditions;[23] a positive diagnosis is consistently associated with adverse outcomes and maternal and fetal deaths;[24] and occurrence of asymptomatic infections is common.[25]

Considering the different infrastructure conditions of obstetric services, the relevance of the human component for COVID-19 control can be seen, since behaviors, attitudes and conducts in childbirth care are facilitating or limiting factors in coping with the disease. In this perspective, the intensification of PPE use and guidance on the importance of wearing a mask with parturient women and companions emerged in participants' statements as behaviors that mitigate the spread of the new coronavirus. However, they envision the risk related to women's reluctance to use a mask during parturition.

In line with the recommendations for the prevention and control of contamination by SARS-CoV-2, universal mask use in health services is a requirement for professionals, workers and users. In the scope of obstetric care, regardless of whether it is a suspected or confirmed case of COVID-19, teams must adopt standard precautionary measures, including hand hygiene and use of gloves, apron, glasses, mask and face shield, since childbirth care involves exposure to body fluids and respiratory droplets, generated by deep breathing and vocalization of women.[2,14,15]

Especially in collective spaces, such as wards and childbirth rooms with several beds, hygiene standards and mask use must be intensified and applied to all parturient women and companions.[2,4] However, it should be noted that women may not tolerate mask use for reasons related to: rescue from traumatic situations; the exacerbation of respiratory conditions; the impairment of gaseous and metabolic exchanges inherent to the physiology of work; the impairment of communication; and the feeling of discomfort and overheating. In these cases, the benefits and risks must be discussed, without any imposition regarding mask use.[15]

Considering the resistance to preventive measures by a considerable part of the population, health education is essential during the pandemic.[26] In this context, nurses play an important role in disseminating scientific information that generates safe behavior for the community, through educational activities and guidance on self-care to promote health and prevent contamination in different environments.[27]

As attitudes and behaviors that promote safety in childbirth care in the face of COVID-19, participants refer to adaptations in their care process, with emphasis on: adoption of rotations in collective room use; provision of equipment close to the bed; encouraging companion participation; and guidance on practices that do not require instruments or continuous professional follow-up, such as free movement in the shower room or bedroom, massage and shower bath with warm water.

Thus, it is noted that these actions are in line with the protocols for the reorganization of health services for COVID-19 prevention and control, which recommend: not to attend childbirths in water;[2,4] avoid handling the placenta and amniotic sac;[4,28] limit the number of people in collective spaces and bathrooms; prevent sharing of objects; and respect the distance of one meter between people, especially in indoor and poorly ventilated environments.[2,14]

Despite these efforts, maintaining physical distance in the care relationship with the parturient women, associated with extensive PPE use, is a challenge for midwives in this study, since they understand touch and non-verbal communication as bodily-affective attitudes transformed into non-medicated therapeutic actions, which characterize the process of humanistic nursing care[1,9,29] and provide a positive experience with childbirth.[15,30] However, they recognize that this attitude increases the risk of COVID-19 transmission.

In opposition to care strategies developed by participants, they perceive an increase in interventionist practices by some professionals to shorten work duration, such as prescribing medication and performing invasive procedures, such as cervical reduction, the Kristeller maneuver and episiotomy. Such behaviors, in addition to being obstetric practices of judicious use or that should be abolished in childbirth care,[30] interfere with COVID-19 control, as they increase occupational exposure.[4]

During the pandemic, health professionals should be even more attentive to good practices, ensuring women's rights and avoiding excessive interventions.[15] However, it is noted that the reorganization of health work has had repercussions on the achievements of humanization of childbirth, expressed in the increase in cases of abuse and disrespect against parturient women and in the adoption of practices without scientific support.[8,10,31-33]

In the scenario of denial and uncertainty that the COVID-19 pandemic is going through in Brazil,[34] restrictive and interventionist behaviors have been established in health care under the argument of mitigating contamination, but without evidence to support them. In this way, women's dignity, safety and autonomy are threatened, forming situations of violence that are manifested in practices without obstetric or unnecessary indication, such as the restriction of the right to a companion, cesarean sections, instrumental childbirths and resource use to reduce labor duration.[8,31-33]

CONCLUSIONS AND IMPLICATIONS FOR PRACTICE

The factors that influence nurses' actions in relation to COVID-19 control in childbirth care refer to the infrastructure and the human component of obstetric services, which can contribute or hinder health protection and contamination prevention.

With regard to infrastructure, physical facilities with PPP rooms or private suites, large bathrooms and adequate sizing of resources allow assistance to be developed with respect for health standards, becoming factors that facilitate disease control. However, small sectors, with collective and restricted accommodation, inadequate ventilation conditions and lack of care instruments, diagnostic tests and PPE, increase the risk of contamination by the new coronavirus.

Regarding the human component, PPE use intensification by professionals and guidance on mask use by parturient women and companions as well as adaptations in the process of caring for nurses are behaviors, attitudes and conducts that mitigate SARS-CoV-2 transmission. However, resistance to mask use during childbirth, the difficulty in maintaining physical distance in the care relationship and the increase in obstetric interventions by some professionals are limiting factors.

These findings reveal the day-to-day challenges of obstetric services and the potential of nurse-midwives' actions in controlling COVID-19, offering subsidies for the development of actions to minimize the impacts of the pandemic on the appropriate environment for childbirth. However, considering that some elements of environment were not studied in depth in this study, it is recommended to carry out research that explores work environments and interpersonal relationships.

Furthermore, it is considered that the rescue of the notions of vulnerability and risk associated with pregnant women in times of COVID-19 can culminate in the resurgence of the biomedical model in obstetric care, making the paths for consolidating the humanization of care and the realization of women's human rights in the post-pandemic period even more challenging.

This study makes contributions to the fields of health and nursing, as it provides subsidies for COVID-19 control in childbirth care. In this sense, their results reveal that the obstetric services that underwent adaptations in the parturition environments and have resources, suitably scaled to demand and appropriate to the pandemic context, present better conditions to protect health and mitigate SARS-CoV-2 transmission.

Moreover, the importance of the human component is highlighted, in the sense of making nurses, health professionals, parturient women and companions co-responsible for adopting behaviors, attitudes and conduct guided by science and the appropriate environment for childbirth. From this perspective, the relevance of nurse-midwives' performance is evident, who respect health standards, ensure the environment of childbirth during the pandemic and offer safe care, from the perspective of health surveillance and scientific evidence, respectful and non-invasive to the female body and physiology, following humanistic principles and women's human rights.

Regarding the interventionist behaviors identified by participants, it is worth reflecting on the influence of the inclusion of pregnant women, parturient women and puerperal women in the risk group for COVID-19 on health care practices. If, on the one hand, this measure aims to protect maternal and neonatal health, on the other hand, it encourages medicalized practices that reinforce the ideas of risk and vulnerability associated with

pregnancy and childbirth, rekindling the medicalized view of the biomedical model in obstetrics, which embodies the female body historical appropriation.

As limitations, the difficulties to understand aspects of participants' non-verbal communication are pointed out, since data collection took place by videoconference due to the pandemic scenario restrictions. Although the study findings reflect the reality of a specific context, it is believed that similar results can be found in other regions, as the characteristics of nurse-midwives' care process confer a certain homogeneity to their practices regardless of location.

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Approval of the final version of the article. Responsibility for all aspects of the content and integrity of the published article.

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