

## ORIGINAL ARTICLE

## REASONS BEHIND MOTHERS' INITIAL PREFERENCE FOR TYPE OF DELIVERY IN A MUNICIPALITY IN NORTHEASTERN BRAZIL

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### ABSTRACT

**Objective:** to identify the reasons behind mothers' preference for type of delivery in early pregnancy. **Method:** this was a cross-sectional conducted between March and July of 2018 with 655 post-partum women in a low-risk maternity hospital in Lagarto, Sergipe, Brazil. The data were analyzed using chi-squared test and prevalence ratio.

**Results:** of the women interviewed, (73.3%; n=480) preferred a vaginal birth in early pregnancy because of easier post-partum recovery (89.6%) or personal desire (30.4%; n=83). The most prevalent reasons for preferring a cesarean section (n=142) were fear of labor pain (59.9%; n=85) and personal desire (37.3%; n=53). The results showed greater frequency of occurrence of the type of birth desired in early pregnancy (PR: 2.07; 95%CI: 1.37-3.12).

**Conclusion:** there are many reasons behind initial maternal preferences of type of birth, and these have an impact on the final route of delivery.

**DESCRIPTORS:** Pregnancy; Obstetrics; Vaginal Delivery; Cesarean Section; Patient Preference.

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## RAZÕES MATERNAS DA PREFERÊNCIA INICIAL PELO TIPO DE PARTO EM UM MUNICÍPIO DO NORDESTE BRASILEIRO

### RESUMO

**Objetivo:** identificar as razões maternas da preferência pelo tipo de parto no início da gravidez. **Método:** estudo transversal realizado entre março e julho de 2018 com 655 puérperas em uma maternidade de risco habitual em Lagarto, Sergipe, Brasil. Os dados foram analisados com os testes Qui-quadrado e Razão de Prevalência.

**Resultados:** das mulheres entrevistadas, (73,3%; n=480) desejaram parto vaginal no início da gravidez, em razão da melhor recuperação no pós-parto (89,6%; n=430), desejo pessoal (30,4%; n=146) e experiência positiva (17,3%; n=83). Quanto à cesariana (n=142), predominaram o medo da dor do parto vaginal (59,9%; n=85) e o desejo pessoal (37,3%; n=53). Foi observada maior frequência de realização do tipo de parto que a mulher desejou no início da gravidez (RP: 2,07; IC 95%: 1,37-3,12).

**Conclusão:** a preferência inicial materna pelo tipo de parto possui razões variadas e influencia na via de parto final.

**DESCRIPTORIOS:** Gravidez; Obstetrícia; Parto Normal; Cesárea; Preferência do Paciente.

## RAZONES MATERNAS DE PREFERENCIA INICIAL DEL TIPO DE PARTO EN MUNICIPIO DEL NORESTE BRASILEÑO

### RESUMEN:

**Objetivo:** identificar las razones maternas de preferencia por un tipo de parto al inicio del embarazo.

**Método:** estudio transversal, realizado entre marzo y julio de 2018 con 655 puérperas en una maternidad de riesgo normal en Lagarto, Sergipe, Brasil. Datos analizados mediante test de Chi-cuadrado y razón de prevalencia.

**Resultados:** de las entrevistadas, (73,3%; n=480) solicitaron parto vaginal al inicio del embarazo, considerando una mejor recuperación posparto (86,6%; n=430), deseo personal (30,4%; n=146) y experiencia positiva (17,3%; n=83). Respecto a la cesárea (n=142), predominó el miedo al dolor del parto natural (59,9%; n=85) y el deseo personal (37,3%; n=53). Se observó mayor frecuencia de realización del tipo de parto por el que la mujer optó al comienzo de su embarazo (RP: 2,07; IC 95%; 1,37-3,12).

**Conclusión:** la elección materna inicial por un tipo de parto responde a razones variadas e influye en la vía de parto final.

**DESCRIPTORIOS:** Embarazo; Obstetricia; Parto Normal; Cesárea; Prioridad del Paciente.

## INTRODUCTION

A pregnant woman's right to choose the route of delivery is contained in the principles of bioethics. Limiting this decision, in the absence of contraindications, is a violation of these women's autonomy in birth. In the hospital environment, healthcare professionals have a considerable impact on conducting/choosing the route of delivery. Thus, it is necessary to increase access to appropriate information so that pregnant women can exercise their right to choose with awareness and safety<sup>(1-2)</sup>.

The focus of obstetric and neonatal care should be the recognition of the women's/family's feelings and complaints throughout the birth process<sup>(3)</sup>. However, obstetric work environments tend to perpetuate the submission of women to several invasive and even unnecessary procedures by healthcare professionals<sup>(4)</sup>.

Furthermore, prenatal care should be a time of physical and psychological preparation for birth and parentality. Birth is defined as an essentially physiological process, which for most mothers and infants, progresses without complications<sup>(5)</sup>. However, unnecessary indications and practices during the birthing process have become frequent. As a way to counter this growth, public policies coupled with different groups of professionals have strived to modify the current scenario based on scientific evidence<sup>(6)</sup>.

There are two routes of delivery: vaginal birth and cesarean section. The first should be the preferred route, because it is physiological and offers benefits to women and newborns, while the second is indicated only when there is a risk factor for the mother's and/or infant's health. An adequately indicated type of delivery, humanized healthcare, and respect to a pregnant woman's autonomy ensure women's dignity and control over her birth, favoring her leading role in this process<sup>(7)</sup>.

Autonomy is one of the secular bioethical principles defined as the human capacity to make decisions about oneself, based on acquired information<sup>(8)</sup>. When obstetric care is centered on the woman and her needs, she has actual protagonism and a basic right is respected<sup>(9)</sup>. To consolidate this statement, according to Resolution no. 2.144/2016 of the Brazilian Federal Council of Medicine, in elective situations, women have total autonomy to decide the route of delivery that they believe to be best, as long as they are aware of all the associated risks and benefits<sup>(10-11)</sup>.

Even with this legal guarantee, cesarean section rates continue high in Brazil, even though public policies and incentives have existed for years that aim to reduce the rate of this surgical procedure. It is believed that the issue is influenced by previous painful birth experiences, lack of humanized care, lack of professional recognition, and lack of interest by medical professionals in less-invasive actions, in addition to the positive profits that surgical procedures bring to obstetric institutions<sup>(11)</sup>.

A data review from 150 countries showed that Latin America and the Caribbean had the highest cesarean section rates in the world (40.5%), followed by North America (32.3%), Oceania (31.1%), Europe (25%), Asia (19.2%) and Africa (7.3%). In terms of countries, Brazil (55.4%) and the Dominican Republic (56.4%) had the highest cesarean section rates in the world<sup>(12)</sup>. This implies the need to concentrate global efforts on ensuring that cesarean sections be conducted exclusively when necessary<sup>(13)</sup>.

In 2018, considering the targets of the Sustainable Development Goals and the Global Strategy for Women's, Children's and Adolescent's Health (2016-2030), the World Health Organization published a new directive with intra-birth care recommendations adaptable to each country. It defines a list of unnecessary interventions during labor and delivery and expands its focus/care<sup>(14)</sup>.

Thus, this study contributes to the discussion by helping to better the process behind mothers' preference for each type of delivery, while also improving knowledge about the factors that contribute to maintaining high cesarean section rates in the Northeast of Brazil.

The objective of the present study was to identify the reasons behind mothers' preference for type of delivery in early pregnancy.

## METHOD

This was an observational, cross-sectional, descriptive and analytical study, conducted between March and July 2018. The interviews were carried out with 655 women in immediate postpartum at a low-risk maternity hospital located in the municipality of Lagarto, Sergipe, Brazil. The institution assisted births with public and/or private funding of women with low-risk pregnancies from Lagarto and other cities belonging to and/or surrounding the center-south region of the state.

Eligible postpartum women were selected using simple random sampling, based on a list of daily admissions. Eligibility criteria were women who had birthed a live fetus of any gestational age (GA) or weight or a deceased fetus that weighed  $\geq 500\text{g}$  or with  $\text{GA} \geq 20$  weeks at birth. Women who did not speak and/or understand Portuguese and/or presented severe mental disorders were not included.

First, the variables were presented descriptively. Next, the association between nominal categorical variables "type of birth preferred by women in early pregnancy" and "type of birth that occurred at maternity hospital" was estimated.

The eligible population for the study comprised 1,250 women, based on the annual estimate of births made available in 2017 by the institution's administration. This information was used with Barbetta's formula (2014), with a confidence level set at 97% and sample error at 3%.<sup>(15)</sup> Furthermore, a safety margin of 10% was added to the calculated number, resulting in 655 interviewed postpartum women.

The interviews were carried out with the postpartum women within a minimal interval of 6 hours postpartum. The questionnaire addressed the decision-making process behind the type of birth, including the mother's reasons for their preference.

Statistical analysis used univariate and bivariate techniques to obtain the distribution of absolute and relative frequency values. Pearson's independence chi-squared test verified the association between nominal categorical variables. Prevalence odds were estimated as the measure of association and their respective 95% confidence intervals (95% CI). Significance was set at 5%. IBM® SPSS 20.0 Mac software was used. Missing/ignored data were presented in absolute and relative frequencies in descriptive statistics via the category "Did not answer"; in inferential analysis, these data were suppressed.

The present study is linked to the project "Being Born in Lagarto, SE: A Municipal Survey about Delivery and Birth", approved in March/2018 by the Research Ethics Committee of the Federal University of Sergipe, protocol no. 2.553.774.

## RESULTS

The final sample consisted of 655 postpartum women, with no sample loss throughout the study period. The mean age of the participants was  $25.9 \pm 6.8$  years old. The distribution of the areas where they lived was almost equal, with 322(49.2%) living in urban areas and 321 (49.1%) living in rural areas. In terms of race "brown" was the most self-reported ( $n=485$ , 69.9%) and 347 (53%) of the interviewed women had secondary education or tertiary education. More than half did not have a paid job (72.3%) and 558 (85.2%) lived with a partner at the time of the survey.

Of the total sample (n = 655), 480 (73.3%) said they preferred a vaginal birth in early pregnancy, 142 (21.7%) preferred a cesarean section, and 32 (4.9%) were undecided. These percentages changed slightly over the course of prenatal care, with a decreased preference for both a vaginal birth and a cesarean section and a growth in indecision about preferred type of route of delivery. At the end of the pregnancy, there was a higher preference for a cesarean section, which was especially encouraged by healthcare professionals during the birthing process (Table 1).

Table 1 - Descriptive results of the answers of postpartum women about the decision-making process about type of birth (n=665). Lagarto, Sergipe, Brazil, 2018

<b>Decision-making process regarding type of birth</b>	<b>N</b>	<b>%</b>
<b>1. In early pregnancy, which type of birth did you want to have?</b>		
Vaginal birth	480	73.3
Cesarean Section	142	21.7
No preference ("Didn't matter")	32	4.9
Did not answer	1	0.1
<b>2. Throughout your prenatal care (n=653), which type of birth were you told to be safest for woman and child ("the best type of birth")?</b>		
Vaginal birth	410	62.8
Cesarean Section	47	7.2
Any type (both)	15	2.3
Was not told anything	172	26.3
Did not answer	9	1.4
<b>3. At the end of your pregnancy, which type of birth did you want to have?</b>		
Vaginal birth	429	65.5
Cesarean Section	174	26.6
Undecided	51	7.8
Did not answer	1	0.1
<b>4. Who made the final decision about the type of birth?</b>		
You (woman)	268	40.9
Healthcare professional	195	29.8
Both	186	28.4
Did not answer	6	0.9

Legend: N=Absolute frequency, %=Relative frequency.

The main reasons behind the mothers' preference for a vaginal birth at the start of the pregnancy were easier postpartum recovery (89.6%), personal desire (30.4%), previous positive vaginal birth experience (17.3%). Regarding cesarean sections, fear of labor pain (59.9%), woman's personal desire (37.3%) and using the surgery to perform tubal ligation (24.6%) were the main reasons given by the women. It is worth emphasizing that, among

the 85 (59.9%) women who initially desired a cesarean section because of fear of labor pain, 34 (40%) were primiparous.

Table 2 - Descriptive results of the answers of postpartum about the reasons behind the preference for each type of birth in early pregnancy (n=655). Lagarto, Sergipe, Brazil, 2018

Reasons behind mothers' preference for type of birth	N	%
1. What was (were) the reason(s) behind your preference for vaginal birth in early pregnancy?	(n=480)	
Easier recovery	430	89.6
Personal desire	146	30.4
Family/friend history	59	12.3
Positive experience with vaginal birth (not primiparous)	83	17.3
Fear of cesarean section	73	15.2
2. What was (were) the reason(s) behind your preference for vaginal birth at the start of the pregnancy?	(n=142)	
Fear of labor pain	85	59.9
Personal desire	53	37.3
Family/friend history	8	5.6
Health problems	15	10.6
Husband's preference	3	2.1
Using the surgery to conduct tubal ligation	35	24.6

General note: In the first variable, "n=480" refers to the total number of women who wanted a vaginal birth in early pregnancy. In the second variable, n=142 refers to the total number of women who wanted a cesarean section birth in early pregnancy.

Legend: N=Absolute frequency, %=Relative frequency.

There was a significant reduction in the mothers' preference for a vaginal birth over the course of prenatal care, being that 175 (36.5%) changed their minds in this period. It is important to highlight the fact that the mothers' preference for a certain type of birth in early pregnancy was associated with its higher prevalence at the maternity hospital (PR: 2.07; 95%CI: 1.37-3.12) (Table 3).

Table 3 - Associations between type of birth preference in early pregnancy and type of birth at the maternity hospital (n=655). Lagarto, Sergipe, Brazil, 2018

Variable	Type of birth at maternity hospital		Total N	p-value	PR (95%CI)
	Vaginal N (%)	Cesarean section N (%)			
Route of delivery preferred by women in early pregnancy					
Vaginal birth	288 (60)	192 (40)	480	<b>&lt;0.001</b>	2.07 (1.37-3.12)
Cesarean Section	41 (29)	101 (71)	142		

Legend: %= Relative Frequency, PR= Prevalence Ratio, 95CI= 95% Confidence Interval.

## DISCUSSION

Most of the pregnant women preferred a vaginal birth in early pregnancy. However, when asked about this preference at the end of pregnancy, there was an increase in the mothers' and/or health profession's choice/decision for surgery. This result is not in accordance with a nationwide study in which more than half of births were surgical (51.5%) and often in disagreement with the mother's wishes<sup>(16)</sup>. In light of the disadvantages of the surgery, the World Health Organization recommends cesarean section rates of only 10% to 15%<sup>(13)</sup>.

Vaginal birth should be the first choice for route of delivery among healthcare professionals and pregnant women, as it is a natural and physiological process. It is indicated as the preferred route of delivery for all low-risk pregnancies, with benefits for the mother-child pair and increases expectations of a positive birth experience<sup>(17-19)</sup>.

It can be inferred that, during prenatal care, healthcare professionals have a significant influence on the mothers' desire for type of birth, as there was a reduction in the preference for vaginal birth over the course of the pregnancy. This reduction can be associated with a lack of sufficient information provided to the pregnant women. Throughout prenatal care, the more information women receive, the more they take on a leading role in the entire pregnancy-postpartum cycle<sup>(3)</sup>.

In a study conducted during the prenatal care of 85 pregnant women, which aimed to identify reasons behind changing plans from a vaginal birth to a cesarean section, 60% answered that surgery was more practical, and 55.2% mentioned fear of suffering and pain during labor<sup>(20)</sup>. These data demonstrate a lack of information and incentives for vaginal birth during prenatal care, because the reasons given by these women could have been demystified.

In the present study, almost one-third of the women interviewed did not receive any guidance about which type of birth would be the safest and/or most beneficial. Thus, there was a significant lack of effectiveness of the prenatal care provided in the assessed municipality, which hinders an adequate decision-making process about the route of delivery<sup>(21)</sup>. Previous studies affirm that health education during prenatal care is essential to ensure maternal protagonism throughout the process<sup>(17)</sup>. The lack of effective clarifications about the advantages and disadvantages of each type of birth, results in the submission of pregnant women to invasive procedures in the hospital environment<sup>(13)</sup>.

In this context, it is worth emphasizing the importance of pregnant women arriving at the maternity ward with a complete/detailed birth and delivery plan attached to their prenatal card. A birth and delivery plan is a legal document in which pregnant women - after being informed by their healthcare professionals about pregnancy/birth, and taking into account their wishes, values, and expectations - document their preferences for birth and delivery, enabling a positive birth experience<sup>(22)</sup>.

There is consensus about the importance of the participation of qualified healthcare professionals during the birthing process. Above all, nurses must seek to empower birthing women and contribute so that their wishes are met. To this end, healthcare professionals must work together with women in terms of decision making, letting them decide about their birthing process and cooperating whenever possible<sup>(17)</sup>.

Obstetric nursing is a priority area to strengthen best practices for birth and delivery in the Brazilian Unified Health System. This is associated with the fact that, since 2012, the Ministry of Health and the Ministry of Education have provided enrichment, specialization and residency courses in obstetric nursing in Brazilian states, distributed in all the country's regions<sup>(23)</sup>.

Some factors that influenced the women's decision about route of delivery also stood out. Among the reasons for preferring a vaginal birth, the most prevalent was easier postpartum recovery and the mothers' personal desire. In contrast, the cesarean section was chosen because of fear of labor pain and also because of the mother's personal desire. These reasons were similar to those found in other Brazilian studies<sup>(16,24)</sup>.

In relation to mothers' preference for a cesarean section, this and other studies have pointed to fear of labor pain as one of the main reasons<sup>(16,24-25)</sup>. This piece of data is considered negative because it contributes to reducing rates of vaginal birth among women who are clinically eligible for this route.

Labor pain is inherent to vaginal birth and fear is a completely natural reaction, often associated with previous painful and dehumanized labor experiences, as well as cautionary tales told by relatives and friends about these same situations. However, it is a mistake to associate vaginal birth entirely with suffering, ignoring other factors such as being able to hear the infant cry, hold and breastfeed it immediately after birth, which transforms the situation into a gratifying event, including the activity of hormones that are only released under these conditions<sup>(24)</sup>.

Non-pharmacological mechanisms/methods can be used during labor to accelerate the birthing process and help reduce painful sensations. These include the use of water immersion, massage, birthing balls, aromatherapy, music therapy, freedom of movement, a cozy environment, among others<sup>(26)</sup>. These practices are being included in obstetric health services, because they show good effectiveness. Furthermore, this helps the woman's birthing partner use them to aid her.

Another study conducted in the Northeast of Brazil indicated the provision of obstetric practices considered level "A", with emphasis on the following non-pharmacological methods during labor: warm baths, massages, birthing ball and walking. The authors also showed that there was a greater provision of these methods in births assisted by obstetric nurses<sup>(23)</sup>.

It is important to note easier postpartum recovery after vaginal birth, one of the main reasons mentioned by the women, is not the only benefit of this route. Vaginal birth favors the let-down reflex and decreases the risk of infection when compared to the surgical site of a cesarean section, while also granting greater freedom to move and eat during labor. Furthermore, birthing partners have the possibility to participate by providing physical and psychological support and cutting the umbilical cord<sup>(1)</sup>.

Personal desire was another reason behind the mothers' choice for a vaginal birth as well as a cesarean section. This is associated with one of the principles of bioethics

(autonomy), which must be respected, recognizing the mother's complaints and concerns regarding birth<sup>(1)</sup>. However, for autonomy to be fully exercised, pregnant women must have the leading role in the birthing scene, based on information that was provided to her throughout her pregnancy<sup>(3)</sup>. It is a consensus that the final route of birth must occur within the health possibilities of mother and fetus, preventing the occurrence of complications.

The goal of the cesarean section is to save lives when correctly indicated by pre-established criteria. This procedure can result in permanent complications, especially when there is no safe surgical infrastructure to treat possible intra- and postoperative complications<sup>(13)</sup>. Negative complications/implications of cesarean sections include a greater probability of the illegal prohibition of the presence of a birth partner during birth (in the operating room)<sup>(27)</sup>, lower implementation of skin-to-skin contact<sup>(23)</sup>, and greater risk of morbidity and/or mortality related to surgical site infection<sup>(28)</sup>/suppurative infections<sup>(29)</sup>.

The results also showed that the mother's desire in early pregnancy for a given type of birth favored its occurrence. This finding is positive, revealing that despite changes in preference of route of delivery during pregnancy, the mother's initial desire is an important factor to be considered by healthcare professionals.

Limitations of this study include the fact that the data were obtained exclusively from the reports of the women interviewed without any confirmation from the healthcare professionals who provided prenatal and birth care about decisions/preferences for route of delivery. Regarding the analysis of the outcome of the final type of birth, a possible bias lies in the fact that the maternity ward assists primarily publicly-funded births, and in these situations, cesarean sections commonly occur as a result of obstetric complications and not merely as a result of the woman's preference.

## CONCLUSION

Most of the interviewed women in the present study preferred a vaginal birth in early pregnancy. There were several reasons behind this preference, which was shown to influence the final route of delivery. The main reasons behind the mothers' preference for a vaginal birth were easier postpartum recovery, personal desire, and previous positive vaginal birth experiences. Regarding cesarean sections, fear of labor pain, personal desire, and using the surgery to perform tubal ligation were the main reasons for this preference.

Healthcare professionals responsible for prenatal care should establish better communication with pregnant women and/or partners, discussing the benefits and risks of both routes of delivery, debunking myths, providing guidance about non-pharmacological pain relief methods during labor and also ensuring maternal autonomy so they can make conscious and safe choices.

Complementary studies should be conducted to identify the reasons why some healthcare professionals tell women during prenatal care that cesarean sections are the safest route of birth when compared with a vaginal/physiological birth. Moreover, the reasons behind the professionals' decision for cesarean sections at the end of the pregnancy should also be studied, and whether they are actually based on clinical criteria.

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