Process of decision-making regarding the mode of birth in Brazil: from the initial preference of women to the final mode of birth

Processo de decisão pelo tipo de parto no Brasil: da preferência inicial das mulheres à via de parto final

Decisión del tipo de parto en Brasil: de la preferencia inicial de las mujeres, al parto final

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Abstract

The purpose of this article is to describe the factors cited for the preference for type of birth in early pregnancy and reconstruct the decision process by type of birth in Brazil. Data from a national hospital-based cohort with 23,940 postpartum women, held in 2011-2012, were analyzed according to source of funding for birth and parity, using the χ^2 test. The initial preference for cesarean delivery was 27.6%, ranging from 15.4% (primiparous public sector) to 73.2% (multiparous women with previous cesarean private sector). The main reason for the choice of vaginal delivery was the best recovery of this type of birth (68.5%) and for the choice of cesarean, the fear of pain (46.6%). Positive experience with vaginal delivery (28.7%), cesarean delivery (24.5%) and perform female sterilization (32.3%) were cited by multiparous. Women from private sector presented 87.5% caesarean, with increased decision for cesarean birth in end of gestation, independent of diagnosis of complications. In both sectors, the proportion of caesarean section was much higher than desired by women.

Parturition; Maternal and Child Health; Patient Preference; Cesarean Section

Resumo

O objetivo deste artigo é descrever os fatores referidos para a preferência pelo tipo de parto no início da gestação e reconstruir o processo de decisão pelo tipo de parto no Brasil. Dados de uma coorte de base hospitalar nacional com 23.940 puérperas, realizada em 2011-2012, foram analisados, segundo fonte de pagamento do parto e paridade, com utilização do teste χ^2. A preferência inicial pela cesariana foi de 27,6%, variando de 15,4% (primíparas no setor público) a 73,2% (multíparas com cesariana anterior no setor privado). O principal motivo para a escolha do parto vaginal foi a melhor recuperação desse tipo de parto (68,5%) e para a cesariana o medo da dor do parto (46,6%). Experiência positiva com parto vaginal (28,7%), parto cesáreo (24,5%) e realização de laqueadura tubária (32,3%) foram citadas por multíparas. Mulheres do setor privado apresentaram 87,5% de cesariana, com aumento da decisão pelo parto cesáreo no final da gestação, independentemente do diagnóstico de complicações. Em ambos os setores, a proporção de cesariana foi muito superior ao desejado pelas mulheres.

Parto; Saúde Materno-Infantil; Preferência do Paciente; Cesárea

Introduction

The caesarean section rate has been increasing in Brazil since the mid-1990s. In 2009, for the first time, the proportion of caesarean sections exceeded the proportion of normal births, reaching 52% in 2010 (Brazilian Health Informatics Department. http://www.datasus.gov.br, assessed on 18/Mar/2013), rate much higher than the maximum limit of 15% recommended by the World Health Organization (WHO) [1].

The rate of caesarean shows uneven distribution in the country, higher rates in older women, higher education, primiparous with prenatal care in the private sector, and living in the South, Southeast and Central [2], being determined in many cases by no clinical factors [3,4].

Caesarean section as a mode to terminating the pregnancy, even in situations where there is no maternal or foetal risk, is more common in women of higher economic status, having been associated with what would be considered good standard of care [5,6].

One of the reasons for the increase in caesarean sections, both in Brazil and in other countries [7], has been the choice of women for this mode of childbirth. However, a recent systematic review on the topic [8] found a rate of preference for caesarean section of 15.6%, with higher rates observed in women with previous cesarean (29.4%) and those living in less developed countries (22.1% vs 11.8%).

In Brazil, studies in the 1990s showed that about 20% of women preferred a caesarean section in early pregnancy [9,10], this rate being close to 40% in women with previous caesarean section [9]. However, this rate increased throughout the evolution of pregnancy, resulting in rates near 90% in the private sector services, with a large number of elective caesarean sections with unclear indications [3,11].

The organization of obstetric care in Brazil limits women's choice regarding mode of birth. In the Brazilian Unified National Health System (SUS), the State finances the care that will be offered by public or private health services, the so-called mixed services contractors. In the SUS, women are usually cared by different professionals in prenatal and childbirth care, with health care teams working in maternity wards during day or night shifts. In general, the indication for a caesarean section is taken through the diagnosis of complications during pregnancy or labour, with limited possibility for scheduling a caesarean section upon request of the woman. In addition to the SUS, there is the provision of private health care services in Brazil, where deliveries fees are covered by direct payment or through private health insurance plans. In this system, prenatal and childbirth care are usually provided by a physician chosen by the woman, and performed in hospitals working with open medical staff, where physicians use only the hospital structure, but does not maintain employment with the service. In the private sector, there is the possibility of scheduling a caesarean section upon a woman's request and/or by indication of the obstetrician.

The assumption of this study is that the decision of the mode of birth is influenced by cultural, socioeconomic, obstetric factors and, mainly, by way of the financing of childbirth care, by subsystem factors i.e. private or public health care.

The aim of this study is to reconstruct the process of decision making for the mode of birth and describe the factors mentioned by women's for their preference for mode of birth in early pregnancy, according to the system of financing for childbirth care and parity.

Methodology

Birth in Brazil is a national hospital-based study consisting of postpartum women and their newborns, conducted from February 2011 to October 2012. The sample was selected in three stages. The first stage, consisting of hospitals with 500 or more deliveries/year, stratified by the five geographical regions of the country, city location (capital or non-capital), and type of hospital financing (private, public and mixed). The second stage was composed of days (minimum of seven days in a hospital) and the third stage by the women. In each of the 266 hospitals sampled, 90 postpartum women, totalling 23,940 subjects were interviewed. More detailed information about the sample design can be found in Vasconcellos et al. [12]. In the first phase of the study face-to-face interviews were conducted with the mothers during hospitalization, data extracted from medical records of postpartum and their newborn, and prenatal card records were photographed. Telephone interviews were conducted before six months and at twelve months after birth to collect data on maternal and neonatal outcomes. Detailed information on data collection is reported in do Carmo Leal et al. [13].

We considered eligible all postpartum women with hospital birth, having as its outcome a live birth, regardless of weight or gestational age, or stillbirth, weighing more than 500g or gestational age greater than 22 weeks.

In this study, data analysis was performed comparing women by parity and type of financing for childbirth care. Women without a pre-

vious birth were considered primiparous and those with one or more previous deliveries multiparous. Women who delivered in public health care facilities and women who delivered in mixed health care facilities that were hot paid by health, insurace plans were classified as "public source of payment." Women whose delivered was paid by health insurance plan, and the delivery occurred in mixed or private hospitals, and women who delivered in private facilities, regardless if the delivery had been paid or not by the health insurance plan, were classified as "private source of payment". Only women with singleton pregnancies were considered.

Analysis of socio-demographic characteristics, prenatal care and women's care in childbirth was conducted, and chi-square test was used to verify differences between proportions.

The variables age (< 20 years old, 20-34 years old, 35 or more); schooling (incomplete primary education, completed primary education, secondary education, higher education); self-reported skin colour (white, black, brown, yellow, indigenous); marital status (living or not with a partner), paid work (yes, no); a history of caesarean section (in women with previous birth); completion of prenatal care (yes, no); place of prenatal care (public or private); adequacy of prenatal care (adequate/inadequate); complications in pregnancy (yes, no); professional who assisted birth (same professional prenatal or not); woman's initial preference for mode of birth (vaginal birth, caesarean section, or no preference); advice received in prenatal (vaginal birth is safer, caesarean section is safer, both are safe); decision for the mode of birth in the end of pregnancy (by mode of birth and by who made the decision); final mode of childbirth (vaginal, forceps, caesarean section); caesarean section due to complications (proportion of caesarean sections due to the presence of complications in pregnancy); caesarean section due to labor (caesarean section with or without spontaneous labour or induction attempt, according to data from hospital records).

To review the adequacy of prenatal care, the criteria set by the Ministry of Health was adopted [14] (early prenatal care before the 16th gestational week and minimum number of prenatal consultations for gestational age at childbirth, considering first appointment in the first trimester, two on the second and three in the third). For a definition of complications during pregnancy, we considered the recorded information in the prenatal card or hospital records, any of the following could be associated with the indication for caesarean section: pre-existing medical diseases, hypertensive disorders, diabetes (gestational or not), HIV infection, non-cephalic presentation of the newborn, intrauterine growth restriction, oligohydramnios, polyhydramnios, isoimmunization, placenta previa, placental abruption, foetal distress, preterm labour, post-maturity, macrosomia, severe congenital malformation, iterative (two or more previous caesareans), failed induction of labour and complications in labour progress (cephalopelvic disproportion, uterine dyskinesia, dystocia, uterine rupture, prolonged second stage of labour and uterine atony).

The process of deciding the mode of birth, from women's initial preference until the final mode of birth, was reconstituted according to parity and source of financing for childbirth care.

The reasons reported by the women for their initial preference for the mode of childbirth were analyzed; the chi-square statistical test was used to verify differences between proportions.

Analysis for complex samples was used, aiming to incorporate the effect of study design and data weighting according to sample level. Every analysis was performed using IBM SPSS software version 19.0 (IBM Corp., Armonk, USA).

This study was approved by the research ethics committee at National School of Public Health/Oswaldo Cruz Foundation ENSP/Fiocruz), number 92/2010. Before the interview, the Informed Consent Form was read to the participant, and digital consent form obtained. Every precaution has been adopted to ensure anonymity and confidentiality of the data. Detailed information on the methodology of this study is published in do Carmo Leal et al. [13].

Results

Of the postpartum women included in the study, 5.7% were not interviewed due to refusal (85%) or discharged as outpatient (15%). These women showed no differences from the respondents for the variables age and mode of birth, however a higher proportion of losses occurred for women with private financing for childbirth care (33.6% vs. 19.5%). Among the respondents, 1.2% had multiple pregnancies and were excluded from the analyzes.

The mean age of women interviewed was 25.6 years old, ranging from 12 to 46 years old, and 19.2% were under 20 years old. A third of women reported being of white skin colour and 64.7% declared themselves as black or mixed race. A quarter of respondents had less than primary school education and 8.8% had higher education. About 80% of women referred living with a partner, 40% had paid employment and 46.9% were primiparous. Among those with pre-

vious births, 40.4% had at least one caesarean section. Approximately 48% of pregnant women had some clinical and/or obstetric complications during pregnancy.

Only 1.4% of women reported not having attended prenatal care and a third had been accompanied in private services. Prenatal care was considered adequate in 65.5% of women. About a quarter of pregnant women were attended by the same professional during prenatal care and childbirth.

Approximately 66% of respondents preferred normal birth in early pregnancy, 27.6% reported a preference for caesarean section and 6.1% did not have a well-defined preference.

Following the advice received during prenatal care, 63.2% of women believed that for an uncomplicated pregnancy, normal birth was the safest, 6.3% that caesarean section was the safest, 21.5 % that they were both safe and 9% did not feel informed.

In the end of pregnancy, the decision for caesarean section had already been made in one-third of women, and a quarter had not yet decided on the mode of birth. Whereas 51.5% of women had a caesarean section as a means of ending their pregnancy, 65.7% of them had caesarean section without labour. The highest rates of caesarean sections were observed in pregnant women with some complications in pregnancy (71.9% vs 32.9%). A fifth of all women had private funding of childbirth care.

Primiparous women with private financing for childbirth had a higher proportion of white, stable marital status and older age, higher education, higher integration in the labour market, prenatal care performed almost entirely in private services and greater proportion of adequate care, all of these differences were significant (Table 1).

There were no differences in the occurrence of clinical and/or obstetric complications that could be associated with a higher proportion of cesarean section in the current pregnancy, comparing public with private financing (Table 1). Women with complications in pregnancy and childbirth care financed by the public sector, the proportion of cesarean section was three times higher than those who did not have complications, whilst when the childbirth was privately financed, the proportion of caesarean sections was very similar, exceeding 80% regardless of the diagnosis of complications during pregnancy and/or labour (Table 1).

Table 1

Demographic, socioeconomic, reproductive and prenatal and delivery care characteristics in primiparous women according to type of health care source of payment for childbirth care. Brazil, 2011-2012 *.

Maternal characteristics	Total (N = 11,074) %	Public financing (n = 8,487) %	Private financing (n = 2,587) %	p-value
Age (years old)				< 0.001
< 20	33.4	41.1	8.1	
20-34	62.2	56.5	80.9	
35 or more	4.4	2.4	11.0	
Colour of skin/race				< 0.001
White	36.1	29.9	56.4	
Black	8.1	9.6	3.0	
Pardo/Mixed	54.3	59.0	39.0	
Yellow/Asian	1.1	1.1	1.4	
Indigenous	0.4	0.4	0.2	
Education:				< 0.001
Incomplete Primary School	17.8	22.8	1.4	
Complete Primary School	25.2	30.0	9.6	
Secondary School complete	45.7	43.6	52.5	
University and further	11.3	3.6	36.4	
Conjugal status:				< 0.001
Does not live with partner	23.3	26.0	14.2	
Lives with partner	76.7	74.0	85.8	

(continues)

Table 1 (continued)

Maternal characteristics	Total (N = 11,074) %	Public financing (n = 8,487) %	Private financing (n = 2,587) %	p-value
Has paid occupation	40.7	30.5	74.3	< 0.001
Attended antenatal care	99.4	99.2	99.8	< 0.05
Place of prenatal care				< 0.001
Only public services	66.2	85.3	4.2	
Private services or both	33.8	14.7	95.8	
Adequacy of prenatal care				< 0.001
Adequate	71.2	66.9	85.3	
Inadequate	28.8	33.1	14.7	
Complications in pregnancy	48.6	48.5	49.1	0.772
Prenatal care and delivery with same profissional	25.1	9.1	77.6	< 0.001
Initial preference				
Vaginal delivery	72.3	77.4	55.5	
Cesarean section	20.2	15.4	36.1	< 0.001
No preference	7.5	7.2	8.5	
Advice received in prenatal care				
Normal birth is safer	59.6	66.3	38.1	
Caesarean section is safer	6.3	4.7	11.3	< 0.001
Both are safe	24.2	17.6	45.5	
Was not clarified	9.9	11.4	5.0	
Decision in late pregnancy **				
No decision	30.4	35.5	13.8	
Vaginal delivery woman's decision	20.9	24.1	10.6	
Vaginal delivery profissional's decision	9.9	12.5	1.5	
Vaginal delivery both's decision	11.4	12.9	6.5	< 0.001
Caesarean section woman's decision	9.9	4.7	27.1	
Caesarean section profissional's decision	9.3	7.3	15.9	
Caesarean section both's decision	8.1	3.1	24.6	
Mode of delivery				
Vaginal delivery	42.7	53.0	9.0	
Forceps	1.9	2.2	1.0	< 0.001
Caesarean section	55.4	44.8	89.9	
Caesarean section due to complications ***				
Pregnant women with complications	76.1	70.5	94.3	< 0.001
Pregnant women without complications	35.8	20.7	85.7	< 0.001
Caesarean according to labour #				
Pre-labour	62.3	52.5	78.3	< 0.001
Intrapartum	37.7	47.5	21.7	< 0.001

* Values are weighted according to sample design;

** Excluded 64 cases in which the decision for mode of delivery was made by someone else (43 for vaginal delivery and 21 for caesarean section);

*** Numbers shown represent the proportion of caesarean sections in each category (pregnant women with or without complications in pregnancy), according to type of health care source of payment for delivery care (public or private);

Only women with caesarean section (n = 6,258).

We observed a greater proportion of women with an initial preference for caesarean section in the private sector. Also in this sector, there was a higher percentage of women who believed that caesarean section is a safer mode of birth, or both modes of birth are safe for the woman, while in the public sector about 70% reported that normal birth is safer. In the end of pregnancy, the propor-

tion of women who reported decision for a caesarean section remained constant in the public sector, reaching values higher than 70% in the private sector. In this sector, caesarean section was decided mostly by the woman herself or together with the prenatal care provider (Table 1). In both types of financing, the proportion of normal birth determined by prenatal care provider at the end of pregnancy was low, only 1.5% among women in the private sector. The caesarean rate was significantly higher in the private sector, with approximately 80% of caesarean sections carried out without the mother having gone into labour (Table 1).

Similar results were observed among multiparous women (Table 2), and the same differences were identified according to type of financing for childbirth care. We emphasize a higher proportion of women over 35 years of age in both sectors, as well as preferred initial and final decision by caesarean section, and higher proportion of previous caesareans in women in the private sector.

Figures 1 and 2 show the decision process for the mode of birth during pregnancy. Due to the low proportion of women with no initial preference, these were grouped with women with preference for vaginal birth.

Figure 1 shows a high proportion of primiparous women preferring vaginal birth, especially among women in the public sector. The decision for vaginal birth decreased at the end of pregnancy in this sector, due primarily to the high number of women who reported not having a decision by mode of birth, while the option for caesarean section was similar in early and end of pregnancy. However, in the private sector, the decision for caesarean section almost doubled

Table 2

Demographic, socioeconomic, reproductive and prenatal and delivery care characteristics in multiparous women according to type of health care source of payment for delivery care. Brazil, 2011-2012 *.

Maternal characteristics	Total (N = 12,533)	Public financing (n = 10,435)	Private financing (n = 2,098)	p-value
	%	%	%	
Age (years old)				< 0.001
< 20	6.7	7.7	1.7	
20-34	77.6	78.9	71.1	
35 or more	15.7	13.4	27.3	
Colour of skin/race				< 0.001
White	31.7	27.7	51.6	
Black	9.1	10.1	4.0	
Pardo/Mixed	57.7	60.6	43.2	
Yellow/Asian	1.0	1.1	1.0	
Indigenous	0.4	0.5	0.2	
Education				< 0.001
Incomplete Primary School	34.4	40.1	6.2	
Complete Primary School	26.0	28.9	11.4	
Complete Secondary School	32.9	28.7	53.8	
University and further	6.7	2.3	28.5	
Conjugal status				< 0.001
Does not live with partner	85.5	83.8	93.9	
Lives with partner	14.5	16.2	6.1	
Has paid occupation	39.8	34.1	68.2	< 0.001
Attended prenatal care	97.9	97.5	99.9	< 0.001
Place of prenatal care				< 0.001
Only public services	75.2	89.9	3.6	
Private services or both	24.8	10.1	96.4	

(continues)

Table 2 (continued)

Maternal characteristics	Total (N = 12,533) %	ublic financing (n = 10,435) %	Private financing (n = 2,098) %	p-value
Adequacy of prenatal care				< 0.001
Adequate	60.5	56.2	81.9	
Inadequate	39.5	43.8	18.1	
Complications in pregnancy	46.8	46.6	47.6	0.567
Prenatal care and delivery with same profissional	20.7	9.4	76.8	< 0.001
Previous caesarean section	40.4	34.9	67.7	< 0.001
Initial preference				< 0.001
Vaginal delivery	61.0	66.1	36.0	
Cesarean section	34.2	29.2	58.8	
No preference	4.8	4.7	5.2	
Advice received in prenatal care				< 0.001
Normal birth is safer	66.4	71.1	43.4	
Caesarean section is safer	6.4	5.2	12.2	
Both are safe	19.0	14.7	39.9	
Was not clarified	8.2	9.0	4.4	
Decision in late pregnancy **				< 0.001
No decision	21.9	24.7	7.9	
Vaginal delivery woman's decision	22.6	25.2	9.7	
Vaginal delivery profissional's decision	9.2	10.7	1.7	
Vaginal delivery both's decision	10.8	11.9	5.3	
Caesarean section woman's decision	12.4	8.6	31.3	
Caesarean section profissional's decision	11.9	11.8	12.9	
Caesarean section both's decision	11.2	7.2	31.2	
Mode of delivery				< 0.001
Vaginal delivery	50.9	58.1	15.0	
Forceps	1.1	1.2	0.5	
Caesarean section	48.0	40.7	84.5	
Caesarean section due to complications ***				
Pregnant women with complications	68.0	63.6	89.5	< 0.001
Pregnant women without complications	30.5	20.7	80.0	< 0.001
Caesarean according to labor #				
Pre-labour	69.2	64.4	80.8	< 0.001
Intrapartum	30.8	35.6	19.2	

* Values are weighted according to sample design;

** Excluded 98 cases in which the decision for mode of delivery was made by someone else (56 for vaginal delivery and 42 for caesarean section);

*** Numbers shown represent the proportion of caesarean sections in each category (pregnant women with or without complications in pregnancy), according to type of health care source of payment for childbirth care (public or private);

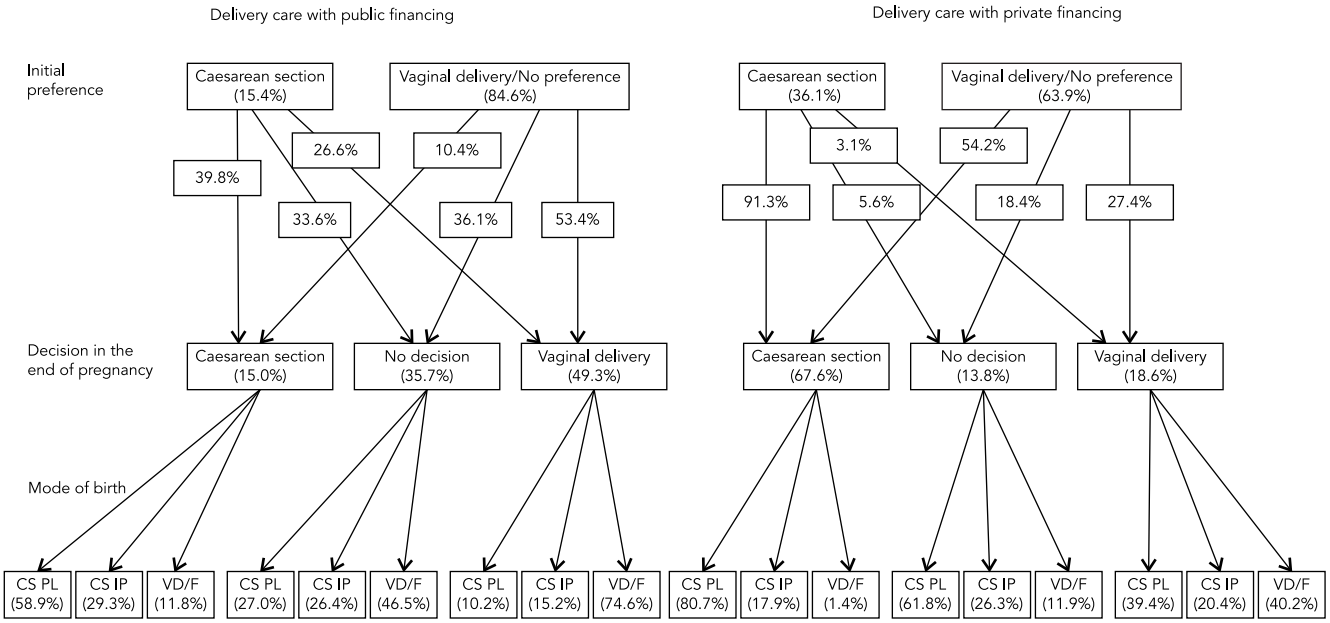
Only women with caesarean section (n = 6,138).

compared to the initial preference. The proportion of caesarean section as mode of birth was much greater than desired by women, approximately three times higher than the initial preference, in both sectors. In the private sector, 14.6% of primiparous women that had an initial preference for vaginal birth had this mode of birth, while in the public sector this figure was 57.1% (data not shown).

As shown in Figure 2, most multiparous women reported preference for vaginal delivery when childbirth was financed by the public sector. In this group, the preference for caesarean section remained virtually unchanged in late pregnancy, close to 30%, and the proportion of caesarean sections of 40.7% was observed, with 71.2% of women wanting a vaginal birth in early pregnancy having this mode of childbirth. Among women

Figure 1

Trajectory of mode of delivery in primiparous women according to type of health care source of payment for delivery. Brazil, 2011-2012.



CS PL: caesarean section pre-labour; CS IP: caesarean section intrapartum; VD/F: vaginal delivery or forceps.

with private health care funding, there was reversal of these values, with 58.8% of women stating preference for caesarean section from the beginning of pregnancy. Among these women, there was a 30% increase in the caesarean decision in late pregnancy, with a proportion of 84.5% of caesarean deliveries. For women with an initial preference for vaginal delivery, 36% had their preferred mode of childbirth (data not shown).

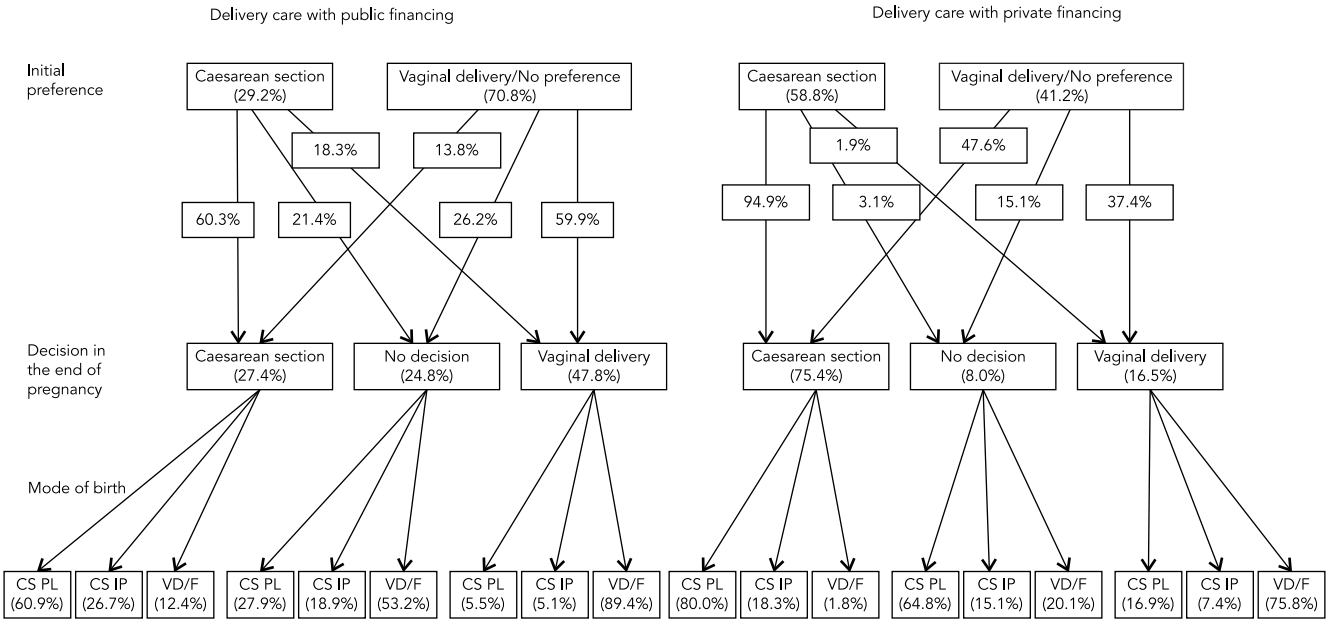
Regardless of parity and type of health care financing, women who maintained the decision for vaginal delivery in late pregnancy showed the greatest proportion of such childbirth, while those with decision for caesarean section showed the highest percentage of caesarean section without labour. Women without a decision made for mode of childbirth showed high caesarean rate, especially in the private sector (Figures 1 and 2).

Multiparous women with previous cesarean section showed higher initial preference for cesarean section in both the public sector (51.2%) and the private sector (73.2%). In the private sector, 90.6% of these women kept the decision for a cesarean section in late pregnancy and 98.2% had this type of childbirth. In the public sector, these values were 55.1% and 80.1%, respectively (data not shown in figure).

In Table 3, we present the main reasons reported by women for their initial preferences of mode of childbirth. It appears that positive perceptions of vaginal delivery - such as being more natural, physiological, and especially with faster recovery (68.5%) - represented the main reasons for the preference of this mode of childbirth regardless of source of financing for care childbirth or women's parity. Among multiparous women, previous positive experience with vaginal delivery has been cited by about one-third of women to justify their preference for vaginal delivery. The other reasons mentioned showed reduced frequency. Information on modes of childbirth, provided on various forms, including in health services, was reported by less than 3% of the women, but was more frequent in multiparous women attended in the private sector. Also these women found greater willingness / desire to have a vaginal birth. Fear of caesarean section, either for fear of surgery and/or anaesthesia, was more frequent among multiparous women in the public health care sector.

Figure 2

Trajectory according to mode of delivery in multiparous women by type of health care source of payment for delivery. Brazil, 2011-2012.



CS PL: caesarean section pre-labour; CS IP: caesarean section intrapartum; VD/F: vaginal delivery or forceps.

Among women preferring caesarean section, negative perceptions of vaginal delivery, primarily related to the fear of labour pain (46.6%), but also issues such as the fear of not being able to give birth, criticism of the "inhumane" way childbirth is managed and fear of not getting care, were the aspects most often cited to justify the preference for caesarean section. Fear of pain during vaginal delivery was reported by a significantly higher proportion of primiparous women served by SUS.

Among multiparous women, the choice for caesarean section as a means for tubal sterilization was reported by nearly 40% of women with deliveries paid by SUS, twice the value observed in women with delivery financed by the private sector. Previous positive experience with caesarean section has been cited by a third of women in the private sector, while it was 20,9% for women whose delivery was publicly financed, this difference considered significant.

Health problems, the convenience of caesarean section for women, the ability to plan and schedule the delivery date, to have the same health professional, the preference of the husband for the type of delivery, and greater safety of caesarean section for the baby were reported by less than 10% women, but were more reported by women with private sector delivery care, particularly primiparous women. Stories of relatives and friends and negative experiences with vaginal delivery were rarely mentioned, but in greater proportion by multiparous women of this sector. The fear that vaginal delivery can alter the sex lives of women and the desire for a caesarean section without a specific reason, were cited by a very small proportion of women in both types of health care financing.

Discussion

The preference for a caesarian section has increased in Brazil, compared to previous studies, being observed in almost a third of women. This figure shows remarkable differences according to reproductive history of women and type of health care financing of childbirth, being lower in primiparous women having their deliveries paid by the public sector (15.4%) and higher among multiparous women with previous caesarean section in the private sector (73.2%). Differences

Table 3

Reasons reported by women for the preference for mode of delivery in early pregnancy, according to parity and type of health care source of payment. Brazil, 2011-2012 *.

Reasons reported by women	Primiparous women					
	Preference for vaginal delivery			Preference for caesarean section		
	Public financing (n = 6,568) %	Private financing (n = 1,435) %	p-value	Public financing (n = 1,308) %	Private financing (n = 933) %	p-value
Recovery from vaginal delivery is better	72.8	76.8	0.086			
Normal birth is better	34.0	33.0	0.715			
Family history/friends	11.8	8.9	0.086	6.0	7.4	0.390
Fear of caesarean section	6.3	4.2	0.063			
Information about delivery	2.7	3.3	0.365	0.5	1.4	0.021
Desire for vaginal delivery	0.6	0.8	0.594			
Partner's preference	0.3	0.5	0.381	0.1	0.9	0.001
Having a known professional	0.1	0.2	0.396	0.2	0.8	0.074
Convenience for woman				2.4	7.9	< 0.001
Fear of labor pain				82.7	69.0	< 0.001
Health problems				4.9	9.9	0.001
Caesarean section safer for baby				2.0	6.4	< 0.001
Negative aspects of vaginal delivery				1.7	2.7	0.308
Vaginal delivery alters sexual life				1.9	2.7	0.205
Desire for caesarean section				1.8	1.7	0.991

(continues)

in preference for the mode of delivery in women attending public and private services had not been found in a study conducted in the 1990s, where the preference for caesarean section in early pregnancy was less than 20% [9]. The higher preference for caesarean section in women with previous caesarean section had already been observed in other studies [8,9,15,16].

One of the explanations for the increase in caesarean section rates worldwide has been the desire of women for this mode of delivery. However, the authors stress that this preference often conceals underlying issues that determine their decision [17]. In this study, a very small proportion of women, less than 2%, justified their decision of mode of delivery by a "desire" or "will" to have a predetermined mode of delivery.

Vaginal delivery was the mode of birth that women showed greater preference. The stated reasons were similar to those found in other studies [3,4,9,10,15], predominating the advantages of vaginal delivery, especially its quicker and easier recovery, and previous positive experiences with this mode of delivery.

The reasons for women's preference for caesarean section were more varied and differ according to parity and type of health care financing for delivery.

Fear of vaginal delivery was the most cited factor, especially in primiparous women, reason often cited by women to prefer a caesarean [3,9], not only in Brazil [7,16,17,18,19].

Positive experiences with previous caesarean section were reported by about one-third of multiparous women attended in the private sector [9,15,18]. This proportion is significantly lower in the public sector, suggesting that in this sector caesarean section is not always associated with a positive experience, probably because its indication tends to be more related to the occurrence of complications during pregnancy and labor. The slower recovery of caesarean section and less support for household tasks would be another possible explanation for the lower satisfaction with this mode of delivery in women from disadvantaged economic classes.

Previous negative experiences with vaginal delivery were cited and have been identified as

Table 3 (continued)

Reasons reported by women	Multiparous women					
	Preference for vaginal delivery			Preference for caesarean section		
	Public financing (n = 6,894) %	Private financing (n = 755) %	p-value	Public financing (n = 13,047) %	Private financing (n = 1,233) %	p-value
Recovery from vaginal delivery is better	63.2	65.1	0.488			
Normal birth is better	32.3	30.6	0.637			
Family history/friends	4.5	5.0	0.602	1.6	3.6	0.003
Fear of caesarean section	8.0	3.8	< 0.001			
Information about delivery	0.5	2.0	< 0.001	0.2	0.8	0.012
Desire for vaginal delivery	0.3	1.2	< 0.001			
Partner's preference	0.2	0.1	0.614	0.2	0.4	0.193
Having a known professional	0.1	--	0.512	0.1	0.5	0.008
Convenience for woman				0,9	4.9	< 0.001
Fear of labor pain				30.7	30.8	0.971
Health problems				6.9	7.3	0.645
Caesarean section safer for baby				1.5	2.4	0.147
Negative aspects of vaginal delivery				0.8	0.9	0.742
Vaginal delivery alters sexual life				1.3	1.3	0.990
Desire for caesarean section				1.1	1.7	0.106
Previous caesarean section				3.2	4.7	0.269
For tubal ligation				37.4	19.5	< 0.001
Previous positive experience with vaginal delivery	28.4	31.7	0.219			
Previous negative experience with vaginal delivery				5.1	7.6	0.006
Previous positive experience with caesarean section				20.9	33.4	< 0.001
Previous negative experience with caesarean section	2.2	2.5	0.601			

* Values are weighted according to sample design.

a factor strongly associated with the demand for caesarean section [4,16]. In the present study, less than 5% of women used beneficial practices recommended by the WHO to appropriate care in labour (data not shown in table), indicating the need for changes in childbirth care model, making it a less painful and more rewarding experience [15,18].

Among multiparous women with public financing, there was greater proportion of reason for caesarean section "for tubal sterilization" [9,10]. Difficulties in access to family planning services can result in greater choice of tubal ligation, and caesarean section being the means of obtaining it. In a previous study, a quarter of women attending the public sector referred that caesarean section was the only way to perform a tubal ligation, this value being much lower in women attended in the private sector [4].

Information about the mode of delivery had a low proportion of reporting either to the preference for vaginal delivery or caesarean section, showing the low importance of information for the decision process of Brazilian women, different from international studies that show that information is of great importance for the engagement of pregnant women in decision-making and for satisfaction with childbirth [20].

Among women in the private sector, there was a greater perception that caesarean section is safer for the baby, a result also found in other studies [4,17,18]. The risks of caesarean section for

women were undervalued, as can be observed by the lower proportion of women in the private sector who reported negative aspects of caesarean section as a reason to prefer normal birth. The largest reported health problems in the group attended in the private sector, many of them unrelated to real indications for caesarean, would not be expected, considering the higher socioeconomic profile of this population, suggesting a trivialization of the indications for caesarean section.

The ability to schedule the date of delivery and have a known health care professional were aspects seldom mentioned, but most reported by women with private health care financing. The organization of care in this sector, allowsing the scheduling of caesarean section on maternal request, together with a high perception of the safety of caesareans sections, are possible explanations for this finding. In other countries, the convenience of scheduling this surgery is less valued compared to the baby's safety and safe recovery of the woman [20].

Differing from international studies [20], no woman said choosing caesarean section in order to prevent perineal injuries. The negative consequences of vaginal delivery for their sexual life were cited by less than 2% of women, confirming results of previous studies [3,4,9,10] that this is not an issue relevant to the decision for a caesarean.

Within a childbirth scenario with high proportion of women with positive perceptions regarding vaginal delivery, it is expected that perinatal education conducted with the pregnant woman, her partner and other family members, who supported and encouraged this preference throughout pregnancy, resulted in increased decision for vaginal delivery. These are the results observed in countries that promotes normal birth, where the preference for this mode of delivery remains high [21], or even increases throughout pregnancy, reaching values higher than 80% [20].

However, the data presented showed that, regardless of the type of financing and parity, women's preference for vaginal delivery was not supported or encouraged by the health professionals. In the public sector, the proportion of women who preferred a caesarean section in late pregnancy did not change, remaining close to 30%, but the number of pregnant women with decision for vaginal delivery decreased due to the increase of pregnant women without a decision of mode of delivery. In the private sector, an increase in the caesarean section's decision in late pregnancy was reported by 70% of women.

Care of approximately 80% of women in the private sector by the same physician during prenatal and delivery suggests a favourable advice towards caesarean section [3,11,18], as the decision for caesarean section was not defined only by complications during pregnancy. It is noteworthy that among women in this sector, after receiving counselling during prenatal care, the predominant perception is that women's safety is independent of mode of delivery, which can be understood as a lack of incentive for women to persist in their choice for vaginal delivery. It is recognized that the attitude of health professionals in relation to caesarean section is influenced by several aspects, among them the convenience of caesarean section for economic and financial reasons [6,7,18], with the possibility of a biased counselling.

Pregnancy is a unique moment in a woman's life. As a rite of passage into motherhood, it is loaded with myth and symbolism. The role of health care professionals during pregnancy is particularly important, since their opinions will influence the perception of women throughout the process, especially in the decision for mode of delivery [15,20].

Guidelines on the best timing for admission in labour, avoiding early hospitalization, and on best practices during labor and birth care are actions that should be undertaken during prenatal care and that can empower women in making decision for vaginal delivery, increasing their confidence in their ability to give birth and to deal with the process of parturition [18,22]. In this study, women who maintained the decision of vaginal delivery in late pregnancy showed the lowest proportion of caesarean section, showing the importance of supporting and encouraging women in their choice for vaginal birth.

For women who show a preference for caesarean section, rests with health care professionals providing prenatal care to evaluate the specific reasons behind this demand, discussing the risks and benefits of caesarean section compared to vaginal delivery. Despite the increased safety of caesarean section, the negative consequences for the health of women and babies are well known [7,23], including impairment to reproductive health in subsequent pregnancies [7,24], and should be reported and discussed with pregnant women. For those with fears related to vaginal delivery and/or with previous negative experience, it is recommended to offer psychological support to help them deal with their anxieties [17,22]. Guidance on their options for pharmacological and non-pharmacological pain relief methods, as well as on ways to promote vaginal birth, are especially important for these women [7,18,19,21,22].

In addition to providing access to information about the mode of delivery, advice for pregnant women should respect their personal needs, cul-

tural, social values and their reproductive planning [7,20], involving them in decision-making [15]. Understand and respond to the attitudes and beliefs of women during pregnancy is a major focus of international policies for maternal health care. The terms "woman-centered care" and "informed choice" indicate that besides the physiological aspects of pregnancy and childbirth, other issues related to social, sexual and psychological spheres are important for individual experience of each woman and should be valued aiming to better outcomes and experience. The psychosocial well-being of women is now seen as important as their physical well-being [25].

The proportion of caesarean sections observed was very high, especially in the private sector, where it was six times higher than the rate proposed by WHO [1]. Of all the women who wanted vaginal delivery in early pregnancy, only 58.4% had this mode of delivery, 22% with private financing. The preference of women for caesarean section was preserved and encouraged in the course of pregnancy, especially in the private health care system, where 96.5% of women who wanted a caesarean section had this mode of delivery.

It could be argued that complications arising during pregnancy, or even during labour and delivery, could explain the lower incidence of vaginal deliveries than desired by women. This would be a possible explanation for women with public financing of their deliveries, which had three times higher caesarean rate, upon the occurrence of complications in pregnancy. However, delivery care with private financing, caesarean rate was high, irrespective of diagnosis of complications.

The observed proportions are alarming, especially in primiparous women, for they more likely will have caesareans in future pregnancies. Although studies demonstrate the safety of vaginal birth after caesarean section, with success rates close to 70% [26], in this study only 14.8% of women with previous caesarean section had vaginal delivery and 62% had a caesarean delivery without labor (data not shown in table), indicating that in Brazil, despite scientific evidence to the contrary, physicians still follows the precept that "once a caesarean always a caesarean".

The main limitation of this study was the description of the decision making process for the mode of delivery retrospectively, after the occurrence of delivery, which may have changed the account of his preference for the mode of delivery in early pregnancy. It is possible that after having a caesarean section with a favourable outcome, women may have informed that this was the mode of delivery she wanted, overestimating the initial preference for caesarean section.

As the instrument used did not allow the identification of women who gave birth paid by direct disbursement, it is possible that some women had their delivery assisted in mixed health care facilities and were classified as having public source of payment, having paid for their delivery care. However, as these women had very similar socioeconomic characteristics of women attending public hospitals, it is likely that misclassification occurred in a few cases. As it is a non-differential misclassification with respect to the outcomes studied, it is expected that there has been attenuation of the magnitude of the observed associations.

Women's preference for caesarean section increased in Brazil, however most women surveyed wanted to have vaginal delivery in early pregnancy. Women with private financing for delivery, which are those with higher socioeconomic status and access to adequate prenatal care, showed the highest proportions of preference for caesarean section in early pregnancy, decision for caesarean section at the end of gestation, caesarean sections and pre-labour caesarean sections, without any relationship with the occurrence of complications in pregnancy, indicating that non-clinical factors play an important role in the decision for mode of delivery, as already signalled by other authors [3,6,11].

Data from this study show that organization of care at delivery affects the initial preference of women and how their mode of delivery is decided. Women in the private sector are taken to decide for a caesarean section, with a high proportion of primary caesareans, which become an indication for caesarean section in a future pregnancy. Women in the public sector maintain lower preference for caesarean section, but are not supported in their choice for vaginal delivery in late pregnancy. In both sectors, pregnant women are subjected to a model of care that makes vaginal delivery a painful experience; their greatest fear being labour pain and the main reason for their preference for caesarean section.

Changes to the Brazilian model of care during delivery have become subject of research and recent policies. The challenge that remains is to transform these recommendations into practice, with implementation both in public and private services, maternity care protocols based on scientific evidence with dignified and respectful treatment of women. It is for SUS to provide improvements in services with direct health care financing and increase the regulation and supervision of private services, curbing the excesses observed and ensuring the best outcomes for women and their babies.

Resumen

El propósito de este artículo es describir los factores de preferencia en el tipo de parto durante el embarazo temprano, y estudiar el proceso de decisión en la opción de parto en Brasil. Los datos de una cohorte de base hospitalaria nacional, con 23.894 mujeres, durante el período 2011-2012, se analizaron de acuerdo a la fuente de los fondos para el parto y la paridad, mediante la prueba de χ^2. La preferencia inicial por cesárea fue de un 27,6%, desde el 15,4% (sector público primíparas) al 73,2% (sector privado multíparas con cesárea). La principal razón para la elección de parto vaginal era la mejor recuperación de este tipo de parto (68,5%), y para la cesárea, el temor al dolor durante el parto (46,6%). La experiencia positiva con el parto vaginal (28,7%); parto por cesárea (24,5%) y la esterilización femenina (32.3%) fueron citados por multíparas. Las mujeres en el sector privado tuvieron un 87,5% de cesárea con una mayor decisión hacia este tipo de parto a finales del embarazo, independientemente del diagnóstico de las complicaciones. En ambos sectores, la proporción de la cesárea fue mucho mayor de lo deseado.

Parto; Salud Materno-Infantil; Prioridad del Paciente; Cesárea

Contributors

R. M. S. M. Domingues and M. A. B. Dias and M. C. Leal participated in all stages of production of the article and were responsible for the final version. M. Nakamura-Pereira participated in the design, data analysis and approval of the final version. J. A. Torres and A. O. C. Schilithz collaborated in data analysis, critical review of the content and approval of the final version. E. d'Orsi and A. P. E. Pereira participated in the critical review of the content and approval of the final version.

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