treatment decisions on individual risk factors for cardiovascular disease in isolation.[7]

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Consumer demand for caesarean sections in Brazil: population based birth cohort study linking ethnographic and epidemiological methods

Dominique P Béhague, Cesar G Victora, Fernando C Barros

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Department of Social Medicine, Federal University of Pelotas, CP 464-96001-970, Pelotas, Rio Grande do Sul, Brazil
Dominique P Béhague *anthropologist*
Cesar G Victora *professor of epidemiology*
Centro Latinoamericano de Perinatologia, Montevideo, Uruguay
Fernando C Barros *consultant*
Correspondence to: D P Béhague, Department of Anthropology, McGill University, Montreal, Quebec H3A 2T7, Canada
dbehague@aol.com

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Abstract

Objectives To investigate why some women prefer caesarean sections and how decisions to medicalise birthing are influenced by patients, doctors, and the sociomedical environment.
Design Population based birth cohort study, using ethnographic and epidemiological methods.
Setting Epidemiological study: women living in the urban area of Pelotas, Brazil who gave birth in hospital during the study. Ethnographic study: subsample of 80 women selected at random from the birth cohort. Nineteen medical staff were interviewed.
Participants 5304 women who gave birth in any of the city's hospitals in 1993.
Main outcome measures Birth by caesarean section or vaginal delivery.
Results In both samples women from families with higher incomes and higher levels of education had caesarean sections more often than other women. Many lower to middle class women sought caesarean sections to avoid what they considered poor quality care and medical neglect, resulting from social prejudice. These women used medicalised prenatal and birthing health care to increase their chance of acquiring a caesarean section, particularly if they had social power in the home. Both social power and women's behaviour towards seeking medicalised health care remained significantly associated with type of birth after controlling for family income and maternal education.
Conclusions Fear of substandard care is behind many poor women's preferences for a caesarean section. Variables pertaining to women's role in the process of redefining and negotiating medical risks were much stronger correlates of caesarean section rates than income or education. The unequal distribution of medical technology has altered concepts of good and normal birthing. Arguments supporting interventionist birthing for all on the basis of equal access to health care must be reviewed.

Introduction

Brazil has a very high rate of caesarean sections[1]; 55% of women from families earning more than $1000 (£700, €1120) per month had a caesarean section, above the 15% recommended by the World Health Organization.[2 3]

Women's requests for caesarean section may be an important determinant of birth outcome, particularly in countries with growing privatisation and options for patient choice.[4–8] Most research focuses on women's fears of the physiological consequences of vaginal delivery.[5 9] For this reason the debate has focused on providing consumers with knowledge on the risks associated with vaginal and operative deliveries so that decisions about birth may be rationally informed.[10–14] But how do women and obstetricians conclude that the risk of attempting a vaginal delivery is too high?[13 14]

We investigated why some women seek out medicalised care. In particular, we explored how medicalisation is linked to social power in a society where the everyday experience of inequalities is profound.

Methods

We used a linked ethnographic and epidemiological approach for our study. For the ethnographic study we selected 80 mothers from a birth cohort of 5304 women who gave birth in 1993 in any of the hospitals in Pelotas, Brazil.[2] We interviewed women two or three times during the first five months after birth, using a semistructured guide to explore women's health seeking behaviour, interactions with medical institutions, social integration and activities, and dynamics within

the household. We also interviewed 19 clinicians: six obstetricians, six paediatricians, four general practitioners, and three nurses. Gestational risk was measured with a score.[15]

We created two scores by using simple dichotomous (yes or no) variables that were deemed to relate to a common underlying theme. These scores were used for their relative values as simple tools in the comparative analysis of women's experiences.

The maternal score for medicalisation is the sum of several variables: woman went to the hospital as soon as she felt any signs of labour, woman actively sought ultrasonography during the pregnancy, woman explicitly did not want to know what was going on during the birth, and woman stated she had expected a caesarean section or wanted one before entry to hospital. The score for socioeconomic power was based on several variables: woman stated she worked because she liked to have her own money, woman took part in decisions about the household, woman took money or goods without asking partner or family members, woman did not complain about how money was distributed in the home, woman acquired goods or services informally through exchange with others, and woman appeared more independent from partner or parents than other mothers in the sample. These two constructs represent underlying empirical issues that are important in several societies.[16–18]

Results

In Pelotas over 99% of births occur in hospital, most of which are dealt with by an obstetrician.[19] No significant differences were found between the epidemiological and the ethnographic samples. In the epidemiological sample, 17% (923) of the mothers were under 20, 19% (984) had a family income under $100 (£70) a month, 28% (1492) had had less than five years of schooling, 35% (1860) were primiparous women, and 19% (639) of those with one or more previous deliveries had had a caesarean section. Around 30% (1619) of births were by caesarean sections and 32% (1695) were induced.

Results from the epidemiological study are similar to those from the ethnographic subsample (table 1). Caesarean sections were more common among wealthy and educated women, those with more antenatal attendance, primiparous women and, paradoxically, those with a lower gestational risk. Overall, 83% of women who had had a caesarean section had repeat procedures. Apart from primiparous women, those with the greatest need for caesarean sections were the least likely to receive one.

Table 1 Frequency of caesarean sections according to family and maternal characteristics in 5304 women in Pelotas, 1993

Characteristic	% (No) of caesarean sections
Family income (minimum salaries)*	
≤1	23.5 (231/984)
1.1-3	25.1 (572/2279))
3.1-6	33.3 (406/1218)
>6	50.0 (411/823)
P value†	<0.001
Maternal schooling (years)	
0-4	22.4 (334/1492)
5-8	27.5 (672/2448)
≥9	45.0 (614/1364)
P value†	<0.001
No of antenatal visits	
0-4	16.6 (157/943)
5-9	28.0 (797/2852)
10-20	44.3 (663/1497)
P value†	<0.001
Parity	
Primiparous	34.0 (631/1860)
Multiparous	28.7 (989/3444)
P value†	<0.001
Birth history‡	
Previous normal birth	14.0 (354/2538)
Previous caesarean section	83.3 (532/639)
P value†	<0.001
Gestational risk	
Low (0-2)	36.4 (500/1372)
Medium (3-7)	28.8 (949/3294)
High (≥8)	26.8 (171/637)
P value†	<0.001
Induction	
No	37.6 (1358/3609)
Yes	15.5 (262/1695)
P value†	<0.001
Maternal power†	
Less (0-1)	10.6 (5/47)
More (≥2)	51.6 (16/31)
P value†	<0.001
Medicalised approach towards birth‡	
Less (0-2)	14.0 (7/50)
More (≥3)	46.7 (14/30)
P value†	0.001

*One minimum salary=$100 (£70).
†χ^2 test for heterogeneity.
‡ Primiparous women excluded.
§Information available only for mothers in ethnographic sample.

Socioeconomic reality experienced by physicians and women

Physicians noticed an increase in their patients' awareness of medical knowledge and the possibility of legal action, previously only found among patients from higher social classes. For some, this led to a loss of control over patients (see bmj.com). Before arriving at the hospital 32 women (40%) from the ethnographic study said they expected to have a caesarean section. A vaginal birth was considered a risky and negative experience, whereas caesarean sections represented the best quality care. When asked why women preferred caesarean sections, almost all recounted problems with fetal distress and mortality, excessive pain, or trauma to the vagina.

According to some women, a traumatic vaginal birth often occurred because of medical negligence based on social and economic prejudice. Some explained that poor or uneducated women, teenage mothers, women with few antenatal attendances, those with "too many" children, and women who were believed to not want their child were least likely to receive any kind of medical attention, including interventions. These women were said to have to plead for induction by "making a scandal" during the birth to attract medical attention. For medical staff, however, women's "excessive" screaming indicated a lack of psychological preparation for birth and even desire for the child.

Attempts to avoid a vaginal birth were partly due to antagonistic relationships with medical staff. Women who did not have the money to pay for a caesarean section resorted to indirect methods, such as going to the hospital early in labour to pressure the on-call

obstetrician for interventions, seeking an obstetrician who was known to perform caesarean sections (paying for the occasional private consultation), attending hospital outpatient care rather than local facilities to increase the chances of getting to know obstetricians (despite increased costs due to transportation), requesting ultrasonography, despite it being indicated only in high risk pregnancies in women in the public sector, and paying the on-call obstetrician half price for a caesarean section.

Affect of women's healthcare seeking behaviour on birth outcome

The relation between women's healthcare seeing behaviour and birth outcome were explored statistically for the ethnographic subsample of 80 women. Women with a more medicalised approach towards birthing had more caesarean sections (table 1). Despite economic constraints, women with more decision making power in the home were more able to implement such medicalised behaviours. These women tended to allocate resources for medicalised care (antenatal and birth), particularly if they feared lack of proper medical treatment during delivery. Women with more socioeconomic power in the home also tended to have a caesarean section (table 1). Both decision making power and medicalisation were significantly and largely independently associated with type of delivery after controlling for other determinants (table 2). In the epidemiological sample, the association between number of antenatal visits (an indicator of medicalisation) and birth outcome also remained significant after controlling for other determinants (data not shown).

Induction of birth

Patterns for the induction of birth also highlight how medicalisation is negotiated. Older experienced women argued that induction often helped in acquiring a caesarean section, since increased pain from oxytocin and failed induction provided "hard" proof that labour would not succeed. Conversely, obstetricians believed that induction helped prevent caesarean sections. Among vaginal births only, a greater proportion of women with higher education (a good indicator of the power to negotiate) underwent induction (see bmj.com). Among births by caesarean section only, however, maternal education was not associated with induction, whereas a greater proportion of women from families with lower incomes were induced. This confirms women's views that medical staff may induce a birth to prevent a caesarean section only when the woman is poor.

Discussion

Women's requests for caesarean sections in the absence of clear biological risks may seem irrational. However, traumatic birthing experiences often result from an antagonistic relationship with healthcare providers and a poor hospital environment—two aspects that are particularly acute for women who feel marginalised from society. What seems to underlie fear of vaginal delivery is not simply a lack of information on how to prepare for a vaginal birth but real issues relating to class based on differences in the quality of care provided.

Indeed, many of the factors influencing maternal behaviours, such as fear of pain, are meaningful precisely because they are understood to differ by socioeconomic status and to be embedded in discriminating practices. In Brazil's plural healthcare system, there are alternative routes for women with marginal purchasing power to acquire a caesarean section other than by direct payment. After controlling for income and education, women's power to acquire a medicalised birth continued to have an effect on birth outcome.

In Brazil, one public health response has been to provide more education on the birth process, including risks associated with caesarean sections. This approach does not address the reasons for women's preferences nor that biological, institutional, and social variables are interdependent, as suggested by the holistic methods we used. Other studies have shown how health risks associated with birth progress are widely variable and sensitive to both the birthing environment and the nature of the doctor-patient relationship, making it difficult to standardise biological variables for "normal" births.[14 18 20 21]

If poor quality care, stimulated by socioeconomic inequalities, is behind many women's preferences for a caesarean section, then arguments supporting interventionist birthing "for all" on the basis of equal access to health care must be reviewed. Debates about the reduction of unnecessary medicalised procedures should include, in addition to biological risks, questions of economic inequality, quality of care, and the social determinants of caesarean section rates.

Table 2 Logistic regression for type of birth in ethnographic sample of 80 women in Pelotas, 1993. Values are odds ratios (95% confidence intervals) unless stated otherwise

		Adjusted level		
Characteristic*	**Crude**	**1**	**1-2**	**1, 2, and 4**
Level 1				
Maternal schooling	1.22 (1.05 to 1.42; P=0.01)	1.19 (1.00 to 1.42; P=0.05)	1.11 (0.9 to 1.3; P=0.25)	1.00 (0.9 to 1.3; P=0.6)
Family income (n=77)	1.29 (1.05 to 1.60; P=0.02)	1.16 (0.92 to 1.50; P=0.22)	†	†
Level 2				
Maternal power	2.40 (1.43 to 4.0; P=0.008)	2.20 (1.27 to 3.80; P=0.005)	2.10 (1.3 to 3.6; P=0.005)	2.0 (1.1 to 3.5; P=0.02)
Level 3				
Gestational risk	0.90 (0.7 to 1.12; P=0.36)	1.0 (0.8 to 1.3; P=0.9)	†	†
Primiparous	2.50 (0.9 to 6.9; P=0.08)	1.7 (0.6 to 5.1; P=0.3)	†	†
Level 4				
Maternal medicalisation	2.81 (1.51 to 5.22; P=0.001)	2.62 (1.40 to 5.00; P=0.003)	2.20 (1.17 to 4.22; P=0.01)	2.00 (1.00 to 4.00; P=0.05)
No of antenatal consultations	1.29 (1.06 to 1.57; P=0.01)	1.28 (1.04 to 1.57; P=0.02)	1.28 (1.04 to 1.57; P=0.02)	1.22 (1.0 to 1.50; P=0.07)

*Change in odds ratio associated with each unit change (for all variables included in model).
†Variable excluded from model because significance level >0.2 at first level of adjustment.

What initially seems to be a democratic or "liberal" stance in awarding all the same access to healthcare technology could in actuality be a conservative and medically radical solution to the social inequalities that have led to an increase in caesarean section rates. Additional research is needed in settings where the economically based distribution of caesarean sections is not as discrepant as in Brazil. Even modest inequalities in healthcare provision might create a market for unnecessary interventions among women who feel marginalised from access to medical technology.

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What is already known on this topic

Women's preferences for caesarean sections are understood to result from lack of knowledge and psychological aptitude to handle vaginal delivery and its consequences

Efforts to reduce the demand for caesarean sections have focused on providing consumers with correct information on the relative risks associated with vaginal and operative deliveries

What this study adds

In Brazil, many women prefer caesarean sections because they consider it good quality care

Rich women are more likely to have caesarean sections, supporting the notion that medical intervention represents superior care

Poor women may implement a series of medicalised practices that justifies the need for greater medical intervention during birth

Interventions for reducing caesarean sections by educating physicians and patients about risk factors associated with birthing procedures are not sufficient

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Episiotomy rates in primiparous women in Latin America: hospital based descriptive study

Fernando Althabe, José M Belizán, Eduardo Bergel

Current scientific evidence shows that routine episiotomy is not justified: it has no benefit for mother or infant, increases the need for perineal suturing and the risk of complications to the healing process at seven days post partum, produces unnecessary pain and discomfort, and has potentially harmful long term effects.[1–3] We report rates of episiotomy in primiparous women in Latin American hospitals according to characteristics of hospitals and caregivers.

Participants, methods, and results

We conducted a hospital based descriptive study based on data routinely collected in a perinatal information system.[4] We analysed data from 122 hospitals in 16 Latin American countries that had reported 416 852 deliveries between 1995 and 1998. We selected hospitals reporting more than 35 spontaneous vaginal deliveries in primiparous women, which is the sample size required to give a 95% confidence interval of 10% either way for an episiotomy rate of 90%. This selection comprised 105 hospitals in 14 countries, which reported 94 472 spontaneous vaginal deliveries in primiparous women. We report episiotomy rates by hospital, with medians (interquartile ranges) as a summary measure.

In 91 hospitals (87%) episiotomy rates were higher than 80% and in 69 hospitals (66%) they were higher than 90%. The overall median rate was 92.3%, and median rates by country varied between 69.2% and 96.2% (table). Episiotomy rates were similar in primary,

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Correspondence to:
F Althabe
althabef@clap.ops-oms.org

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