Conflicts Between Women's Intentions and Behaviors: Mode of Delivery in Brazil

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INTRODUCTION

Brazil is often portrayed as a country where there is an unusually large demand for cesareans, especially among the more affluent. Moreover, this patient demand is held responsible for the high rate of cesareans overall, and the sharp differentials in this rate between the public and private sector. The alleged motivations for the choice of this mode of delivery include fear of vaginal birth, preserving coital function, relief from the pain of labor, and obtaining a tubal ligation (Faundes & Cecatti 1986; Erskine 1999; McGrady 1999). In a recent paper (Potter et al. 2001), however, we presented results from a prospective study that undermined such interpretations. The study showed that, when asked both early and late in pregnancy, most women said that they wanted to deliver vaginally. In these results, there was virtually no difference in childbirth preferences between women in the private and public sectors. The proportion wanting to deliver vaginally was over 80 percent, except in cases where the woman had had a previous cesarean delivery where it was around 44 percent. Clearly, there is considerable conflict between women's intentions about mode of delivery during the pregnancy and what actually happens at the time of birth.

In these data, as in Brazil as a whole, the actual cesarean rate was high in the public sector (31%) and extremely high (72%) in the private sector, and bore no correspondence with women's expressed preferences for type of delivery. Besides showing that the majority of cesareans in Brazil are unwanted, the study also showed that a surprisingly large proportion of cesareans were scheduled in advance: 23% in the public sector and 64% in the private sector (Potter et al. 2001: 1157).

The question that concerns us here is to show the mode of delivery preference for women who ended up with scheduled cesarean sections and to document the motivations for scheduling cesarean deliveries in advance of spontaneous or induced labor. We explore the

ethical considerations that scheduling a cesarean section ahead of time presents, particularly in light of doing so goes against the preferences or intentions of a large proportion of women. And while some elective cesarean sections may be scheduled for the convenience of the woman, serious medical and ethical reservations have been raised about this practice (Bewley & Cockburn 2002; FIGO Committee 1999). And what if, as appears to be the case in Brazil, the woman really wants to deliver vaginally? There would appear to be two alternative ways that such a high rate of scheduled cesareans could be achieved. One is that physicians are open with their patients regarding the difficulties doctors face in attending vaginal deliveries, particularly in the private sector, and, in turn, tell these patients that in order to attend the delivery, it will be necessary to schedule a cesarean. The second alternative is that the physicians offer their patients diagnoses or reasons for deciding on a cesarean that are not medically justified. In this case, the physician might make a general assertion concerning the advantages of a cesarean over a vaginal birth, or offer a diagnosis that would serve as the justification or medical indication for the procedure. In this paper, we examine our prospective data to assess the prevalence of the latter practice.

METHODS

Participants

The study recruited pregnant women aged 18 to 40 in four cities in four Brazilian states between April 1998 and June 1999. Subjects both lived in and intended to deliver in the metropolitan areas of Porto Alegre, Belo Horizonte and Natal, and the municipality of Sao Paulo. All women signed informed consent forms. We excluded specialized populations, such as high risk, assisted reproduction, and HIV-positive patients. Women had to be less than five

months or 22 weeks pregnant and have had no more than two prenatal visits before the first study interview.

The sample was stratified both by sector of care and birth order. It favored by 2:1 women who delivered in public hospital. In the public sector, we recruited more multiparous women than in the private sector due to the difference in fertility between the two populations. In each city, we selected a representative list of about ten hospitals with maternity services in either the public and private sector, and recruited women who planned to deliver in these hospitals.

Procedures

Each subject had three in-person interviews: at the time of recruitment, a month before her expected due date, and a month after her expected due date. We usually conducted the first interview in a health care facility and the second prenatal and postpartum interviews were usually in the woman's home. Reasons for loss of subjects to follow-up included women not at address given, delivery before the second interview, lost pregnancies, and neonatal death.

A standardized questionnaire was used for each interview. The first interview began with demographic information including where she expected to deliver and type of prenatal care. To the question "What type of delivery would you like to have?" the precoded responses were: vaginal (normal), cesarean, depends on the doctor's decision, and don't know/undecided. The questionnaire also included women's plans for future childbearing and contraceptive use including sterilization, and type of delivery of any previous births.

The second interview included health problems, and the continuity, frequency, and content of prenatal care. More detail was requested regarding conversations she had with her doctor about the type of delivery. If the doctor had recommended a cesarean, in addition to the reasons given, the respondent was asked if the surgery was already scheduled.

The third interview covered what happened during delivery, who attended and in which hospital, how paid, date and time of admission, spontaneous labor, induction, and anesthesia. If cesarean, was it scheduled, when and for what reason. If cesarean not scheduled, timing of decision to operate and reasons for decision. Also included: sterilization, household composition, religion, consumer durables in the home, housing, and satisfaction with care received.

Data analysis

Subjects who completed all three interviews were classified as public or private patients depending on how their delivery was paid for. If the government health insurance program (SUS) paid for the delivery, subjects were considered public patients. All others, the vast majority of whom were covered by private insurance, were classified as private patients. We distinguished between primiparas and multiparas, and among multiparas by whether the previous birth was by cesarean.

We reviewed all of reasons women reported that the cesarean was scheduled in advance and classified them into 13 categories, from less to more justified on medical grounds, as follows: Declared physician's convenience; woman requested procedure, including for concomitant tubal ligation; non-permanent problems in previous pregnancy (such us no dilatation, cord around the neck of the fetus, low insertion of placenta); no cervical dilatation; anomalies/diseases which do not justify a cesarean; indications of labor induction; breech or shoulder presentations; twins; previous cesarean section; chronic fetal distress/hemorrhage; herpes and/or HIV infection; pelvic dystocia; other/unknown.

Based on these classifications, we grouped the reasons according to how much the indication reported by the women was obstetrically justified. After excluding the cases in

which women did not know or could not explain the reason for the cesarean, we defined four categories, as follows:

1. *No medical indication*, including for physician's and patient's convenience;
2. *Unjustified medical reason*, which includes problems in previous gestations which were not necessarily present in the current pregnancy/delivery, and "anomalies" (cord around the fetus' neck, pre-term, lack of cervical dilatation) or diseases (gonorrhea) which do not justify pregnancy interruption;
3. *Doubtful indications*, which include (a) all the conditions which could be an indication of pregnancy interruption, but which could have been handled through induction of labor (diabetes, hypertension, urinary/renal problems, prolonged pregnancy) and (b) indications during labor, which refer to conditions such as breech presentation, twins and previous cesarean, where the need for a cesarean should be decided during labor;
4. *Real indications*, which include all the conditions which are appropriate justification for cesarean delivery, such as a narrow pelvis, chronic fetal distress, HIV infection, etc.

In addition to cross-tabulations of the distributions of responses across these four categories by sector, parity & type of previous birth, and delivery preference, we also tested for statistical significance in a log-linear model incorporating all three of the covariates using SPSS.

RESULTS

Of the 1612 women who were recruited into the study, 519 women were from the private sector and 1093 from the public sector. After loss to follow-up (19.2% of private sample and 34.4% of public sample) our final sample included 1136 women, 419 private patients and 717 public patients. In the private sector, 302/519 (72.1%) women had a cesarean section. Of the 295 women with reports about the timing of the cesarean decision, 190 (64.4%) had a

scheduled cesarean. This is in contrast to the public sector women in which 222/717 (31.0%) had a cesarean and 49 of the 207 women who reported on the timing decision (23.7%) had their cesarean scheduled in advance.

Figure 1 shows the distribution of delivery outcomes for the entire sample, as conditioned by the sector in which they delivered and the type of previous delivery they had. In every case, women who delivered in private hospitals had proportionally more scheduled ceasareans as those who delivered in public hospitals, with proportions ranging from 26 percent to 76 percent. In Table 1, after restricting the sample to the 239 women who had a scheduled cesarean, we see women's preferences or intentions for mode of delivery expressed in the prenatal interviews. In both interviews, the majority of these respondents expressed a preference for a vaginal birth, however, the percentage preferring a vaginal birth was higher in the private as compared to the public sector. This difference is related to the difference in preference for type of delivery according to parity, and whether the previous birth was cesarean (Table 2). Desire for a vaginal birth among women who underwent a scheduled cesarean was greatest among primiparas, followed by women whose previous birth was vaginal. Primiparas accounted for a larger share of scheduled cesareans among private as compared to public patients (data not shown).

Of the 239 women who had a scheduled cesarean section, 238 reported a reason for the decision to operate. Of the scheduled cesarean sections with reported reasons, 79% (189/238) were in the private sector (Table 3). The proportions of women in both sectors who had real indications for their scheduled cesarean are small and almost identical. But half of the women who delivered in the private sector had no medical indication or an unjustified medical reason for their cesarean delivery compared to less than a third of women with scheduled cesareans in the public sector.

Based on women's previous delivery experience, those who had had a previous vaginal delivery were most likely to report that there had been no medical justification for scheduling a surgical interruption of pregnancy (Table 4). And while over a fifth of women who had their first birth had a real indication for a cesarean scheduled in advance, twice that many (43%) had an unjustified medical reason or no medical indication for the cesarean. There were also large differences in the distribution of reasons given for the scheduled cesarean according to the delivery preference expressed by the respondent in the prenatal interviews. Table 5 shows that women who had expressed a preference for a cesarean in the prenatal interviews were much more likely not to have been given a medical justification for their scheduled cesarean than were women who expressed a preference for a vaginal birth.

Finally, when we considered the main effects sector, previous delivery experience, and delivery preferences during pregnancy in a log-linear model that treated these variables as predictors, and the distribution of responses concerning the reasons for scheduling the cesarean as the dependent variable, all three predictors were significant at the 0.001 level.

DISCUSSION

The results shown here indicate that the large majority of scheduled cesareans in Brazil are not performed for a compelling medical justification. Given that there are so many scheduled cesareans, this is not surprising. What is surprising, indeed alarming, is that most "elective" cesareans are apparently not wanted, judging by the preferences for type of delivery expressed in the first two interviews. Another study found that women who experienced both types of delivery – vaginal delivery after cesarean section and cesarean section after vaginal delivery – would overwhelmingly choose a vaginal delivery in their next pregnancy (Dunn and O'Herlihy 2005). Furthermore, to judge by respondents' reports of the reasons for scheduling a

cesarean, most "unwanted" procedures (those undergone by women who had earlier said that they wanted a vaginal birth) were not preceded by a frank discussion with the patient concerning convenience or practical necessity. Rather, these women seem to have been offered reasons for these procedures that have no foundation in evidence-based medicine.

The differences in the distribution of reasons given for the scheduled cesareans according to sector of care, and previous delivery experience also suggest that the nature as well as the prevalence of scheduled cesareans differs considerably across these categories. In the public sector, very few scheduled cesareans are among primiparas, and most seem to be found among multiparous women who either wanted a sterilization or who had a previous cesarean section. In the private sector, the motivation for scheduling a cesarean is more likely to be physicians' convenience, which seems to be the reason for the large number of primiparas who apparently had their surgical deliveries scheduled for reasons that were either unjustified or doubtful.

We are hopeful that when the obvious ethical problems with this conduct are brought to the attention of physicians, they will adjust their behavior. Also, we believe this case, while perhaps extreme, has relevance for the debate concerning elective cesareans in other countries.

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Figure 1. Cesarean Section Rates according to Current and Previous Modes of Delivery, by Sector

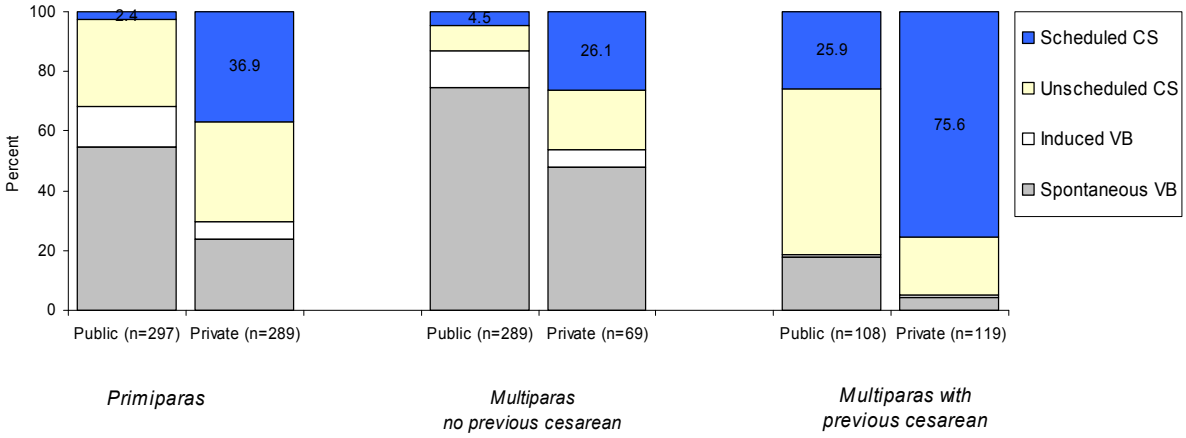

Table 1: Childbirth preferences among women who had a scheduled cesarean section, by interview and sector. Figures are percentage (number) of women

Preference	1st interview			2nd interview		
	Public	*Private*	*Total*	*Public*	*Private*	*Total*
Vaginal delivery	44.9 (22)	58.4 (111)	55.6 (133)	46.9 (23)	54.2 (103)	52.7 (126)
Cesarean section	55.1 (27)	37.4 (71)	41.0 (98)	53.1 (26)	38.4 (73)	41.4 (99)
Don't know/depends on the doctor	--	4.2 (8)	3.3 (8)	--	7.4 (14)	5.9 (14)

Table 2: Childbirth preferences among women who had scheduled cesarean section, by interview and previous delivery experience. Figures are percentage (number) of women

Preference	1st interview			2nd interview		
	First birth	*Previous vaginal*	*Previous cesarean*	*First birth*	*Previous vaginal*	*Previous cesarean*
Vaginal delivery	76.4 (68)	58.1 (18)	39.8 (47)	71.9 (64)	48.4 (15)	39.8 (47)
Cesarean section	19.1 (17)	38.7 (12)	57.6 (68)	20.2 (18)	48.4 (15)	55.1 (65)
Don't know/depends on the doctor	4.5 (4)	3.2 (1)	2.5 (3)	7.9 (7)	3.2 (1)	5.1 (6)

Table 3: Reasons for scheduled cesarean, by sector. Figures are percentage (number) of women

	Sector	
Reason	Public	Private
No medical indication	20.8 (10)	27.5 (52)
Unjustified medical reason	10.4 (5)	22.2 (42)
Doubtful indications	56.3 (27)	35.4 (67)
Real indications	12.5 (6)	14.8 (28)

Table 4: Reasons for scheduled cesarean, by previous delivery experience. Figures are percentage (number) of women

Reason	Previous delivery experience		
	First birth	Previous vaginal	Previous cesarean
No medical indication	14.8 (13)	58.1 (18)	26.3 (31)
Unjustified medical reason	28.4 (25)	9.7 (3)	16.1 (19)
Doubtful indications	34.1 (30)	29.0 (9)	47.5 (56)
Real indications	22.7 (20)	3.2 (1)	10.2 (12)

Table 5: Reasons for scheduled cesarean, by interview and delivery preference. Figures are percentage (number) of women[1]

Reason	Delivery preference 1st interview		Delivery preference 2nd interview	
	Vaginal	*Cesarean*	*Vaginal*	*Cesarean*
No medical justification	16.5 (22)	41.1 (37)	15.1 (19)	42.9 (42)
Unjustified medical reason	25.6 (34)	11.3 (11)	24.6 (31)	11.2 (11)
Doubtful indications	41.4 (55)	39.2 (38)	40.5 (51)	39.8 (39)
Real indications	16.5 (22)	11.3 (11)	19.8 (25)	6.1 (6)

[1]Excludes women who did not have a childbirth preference or who considered it the doctor's decision (8 in the 1st interview and 12 in the 2nd interview).