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Pregnant women's perception of cesarean section on demand

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Abstract

Aims: To assess pregnant women's awareness of and attitudes towards cesarean section (CS) on demand, as well as to identify specific target groups by focusing on differences dependant on the participants' background, parity and intended mode of delivery.

Methods: The study was conducted at two centers during three months. German-speaking pregnant women were invited to answer an anonymous, structured questionnaire. We compared urban vs. rural, nulliparous vs. parous and women opting for a CS vs. denying this wish, with regard to awareness and attitudes towards CS on demand.

Results: Ninety-two percent of the 201 participants were aware of the possibility to deliver by CS on demand. Their sources of information were mostly print media reports, television, or friends. Pain avoidance and missing the birth experience were the main reasons for and against CS on demand, respectively. For women opting for CS on demand, traumatically-experienced previous birth and the child's well-being were other important reasons for a CS.

Conclusions: Because negative birth experience appears to be decisive for pregnant women's attitude towards CS on demand and their perception of CS seems to be partly based on misconceptions, antenatal counseling should focus on these aspects.

Keywords: Antenatal counseling; birth experience; cesarean section on demand; decision making; perception of cesarean section on demand; pregnant women.

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Introduction

The rate of cesarean section (CS) has increased ten-fold during the last 50 years and comprised 29.3% of all deliveries in Switzerland in 2003 and 28% in Germany in 2005 [4, 6]. The rising percentage of CS performed without medical or obstetrical indications but rather on pregnant women's demand contributes to this overall increase in the rate of CS. The percentage of CS on demand varies between 2.6% of all CS in Flanders and 13% (public hospital) to 19% (private hospital) in Brazil [19, 21]. In 1998, FIGO published ethical considerations regarding deliveries by CS for non-medical reasons and recommended against CS on demand, as there is inadequate evidence-based information regarding the risks and benefits [11, 13, 16, 24, 26]. This statement seems to contrast not only with the perception of those pregnant women who favor a CS, but also with the results of several surveys of gynecologists in different countries. They revealed that up to 31% of gynecologists would choose an elective CS for themselves or their partners [1, 10, 17, 19]. While gynecologists were mainly concerned about possible damages to the pelvic floor, and to a lower extent about impaired sexuality, pregnant women's reasons for a CS on demand were primarily comprised of concerns for the child's well-being and the fear of stress and pain during labor [2, 3, 7, 25]. According to the existing literature, these emotional aspects as well as additional psychological factors, such as anxiety and a negative previous birth experience, are decisive [8, 22, 23]. A review of 17 studies by McCourt et al. made evident that cultural, institutional and professional settings of decision-making may play an important role, as well [9, 18]. In 2004, the National Institute for Health and Clinical Excellence (NICE) recommended that further research should be carried out to evaluate the reasons that lead to pregnant women's request for CS [20].

The objective of our study was to gain insight into pregnant women's awareness of CS on demand, their sources of information and their attitudes towards this mode of delivery. The study was conducted at a rural and an urban obstetrical center in Switzerland. The research questions focused on identifying possible differences in intentions and needs of specific target groups and addressed the following issues:

When comparing participants receiving prenatal care at the urban vs. the rural center, nulliparous women vs. those with at least one previous delivery, and women

considering (CS-group) vs. not considering CS on demand (vaginal delivery/VD-group), are there

1. Differences of awareness with regard to CS on demand?
2. Differences of attitudes towards CS on demand?

Materials and methods

Design

This cross-sectional survey was part of an ongoing research project including a randomized controlled trial to assess the effectiveness of a psychological intervention program for women who consider a CS on demand. The project was approved by the local Ethics Committees of the two involved centers, in an urban (University Hospital Basel with 2000 deliveries) and a rural area (Kantonsspital Frauenfeld with 1200 deliveries).

Within a period of three months (from July to October 2005), pregnant women at any time during pregnancy were recruited at one of the two hospital centers or by one of 30 collaborating private obstetricians, and were asked to complete an anonymous questionnaire at home and send it back to the investigators in a self-addressed, stamped envelope. German-speaking women were included and aside from this language requirement, no exclusion criteria were defined.

Instruments

The targeted questionnaire we developed is based on published instruments utilized in the context of studies on birth experience by various teams [3, 12, 25]. It consisted of 24 structured questions: Question 1 focused on pregnant women's awareness of CS on demand and their sources of information about it. Questions 2–4 were about women's attitudes towards this mode of delivery. Questions 5–11 dealt with history and experience of previous and ongoing pregnancies, questions 12–17 with expectations in regard to subsequent delivery as well as preferred mode of delivery, and questions 18–24 with socio-demographic data. Besides multiple choice items and Likert-scales, there was some space for additional remarks and comments. The results presented in this paper focus on the analysis of questions dealing with awareness and attitudes (questions 1–4); data on expectations (questions 12–17) were reported separately.

Data analysis

Data were analyzed using SPSS 14.0. To perform inferential statistics, the participants were divided into two subgroups: Women from the two study sites were assigned to the urban- or rural-group, while nulliparous women were compared to those who gave birth at least once (parous women). Furthermore, women who were affirmative or at least considering delivering by CS on demand (CS-group) were compared to women who denied a wish to deliver by CS on demand (VD-group). We decided to form one group (CS-group) from all the women considering CS, since their final decisions regarding mode of delivery at the time of the survey were not yet known. Therefore, making a distinction between the two subgroups (affirmative and considering, respectively) would have been arbitrary, while the difference between the CS- and VD-group was evident. For research question 1, the two groups were evaluated with regard to awareness of CS on demand (knowledge of this mode of delivery), and for research question 2 with regard to their attitudes towards it (access to this mode of delivery and main reasons for and against it) using χ^2-tests. A $P < 0.05$ was considered significant.

Results

A total of 201 questionnaires were completed: 96 (47.8%) from the urban and 105 (52.2%) from the rural center. The collaborating obstetricians' contribution to recruitment of participants at the urban and rural sites was 49.0% and 28.6%, respectively. The mean age of participants was 31.6 (SD 5.0) years, ranging from 20 to 44 years. Twenty-nine percent of the women graduated from a college or university, and 50% of them had completed a professional training. Sixty-seven percent were Swiss, 27% came originally from other European countries and a minority of 5.5% from other continents. Half of the women were nulliparous, and 12% had already given birth to more than one child. Further socio-demographic and obstetric characteristics are shown in Table 1. Comparing women attending the urban with those attending the rural site revealed no significant differences with regard to demographic data.

Out of the 201 participants, 195 women (97%) answered the question whether they would preferably deliver by CS on demand: 19 (9.7%) answered yes, 15 (7.7%) were uncertain and 161 (82.6%) answered no. Data of the six women not answering the question concerning the preferred mode of delivery were taken into account with regard to descriptive statistics and comparison between urban and rural group, as well as parity, but had to be excluded from comparison between the CS- and VD-group.

Awareness and information

One hundred and eighty-five women (92%) stated that they had heard about CS on demand. Figure 1 shows how frequent the various sources of information were named. Seven women indicated their professional background, and four women a discussion with a midwife or information meetings under "other" sources of information.

When comparing the respective subgroups, women attending the urban center mentioned more often friends ($P = 0.027$) as source of information, parous women print media ($P = 0.042$) and television ($P = 0.023$) and women of the CS-group their obstetricians ($P = 0.001$).

Attitudes towards CS on demand

Table 2 lists the reasons for and against CS, from which the participants had to choose the respective reason that ranked highest for them. The frequencies with which the

Table 1 Socio-demographic and obstetric characteristics (n = 201).

Mean age (SD)	31.6 (5.0) years
Age range	20–44 years
Nationality (n = 201)	
Switzerland	134 (66.7%)
European country	51 (26.3%)
Other continent	11 (5.5%)
No answer	5 (2.5%)
Educational level (n = 197)	
No formation	2 (1.0%)
Secondary school	20 (10.2%)
Vocational training	13 (6.6%)
Professional training	100 (50.8%)
College/university	57 (28.9%)
No answer	5 (2.5%)
Parity (n = 199)	
0-para	102 (51.3%)
I-para	73 (36.7%)
II-para	18 (9.0%)
III-para	5 (2.5%)
IV-para	1 (0.5%)
Mode of delivery first delivery (n = 96)	
Spontaneous	55 (57.3%)
Vacuum/Forceps	16 (16.6%)
Emergency CS	11 (11.5%)
Elective CS	13 (13.6%)
CS on demand	1 (1%)
2nd and 3rd delivery (n = 30)	
Spontaneous	24 (80.0%)
Vacuum/Forceps	2 (6.7%)
Emergency CS	1 (3.3%)
Elective CS	3 (10.0%)
CS on demand	–

items were chosen by all participants and by those of the VD-group and CS-group are presented, as well as the women's estimation with regard to the offer of and the access to CS on demand. As there were no differences when comparing the urban- and rural-group as well as the nulliparous and parous women, these data are not presented separately. "No pain during labor" was the most frequently chosen reason for CS on demand. Comparison between the VD- and CS-group revealed, however, that for women considering CS, pain avoidance during labor was less predominant as the main reason (67.1% and 43.8%, respectively, P = 0.016). Instead, three of them mentioned a traumatic experience in a previous birth and six of them fears of peripartal complications under "other reasons". Missing the birth experience was most frequently chosen as the reason against CS on demand. Again, this main reason was less often cited by women of the CS-group. They chose more often "surgical intervention with abdominal scar", and stated significantly more frequently that there exists "no reason against a CS on demand" at all (P = 0.0001).

Concerning their attitude towards CS on demand in general, 40% of the participants were in favor of the possibility of and the access to a CS on demand for every pregnant woman, while almost the same percentage (38.5%) argued against it. Women of the CS-group were significantly more often in favor of this option and less often against it than women of the VD-group (P = 0.002 and 0.004, respectively).

Discussion

The main findings of our survey on pregnant women's perception of CS on demand were that almost all women were aware of this mode of delivery, 10% seriously considered delivering by CS on demand, and 40% declared that CS on demand should be available for all pregnant

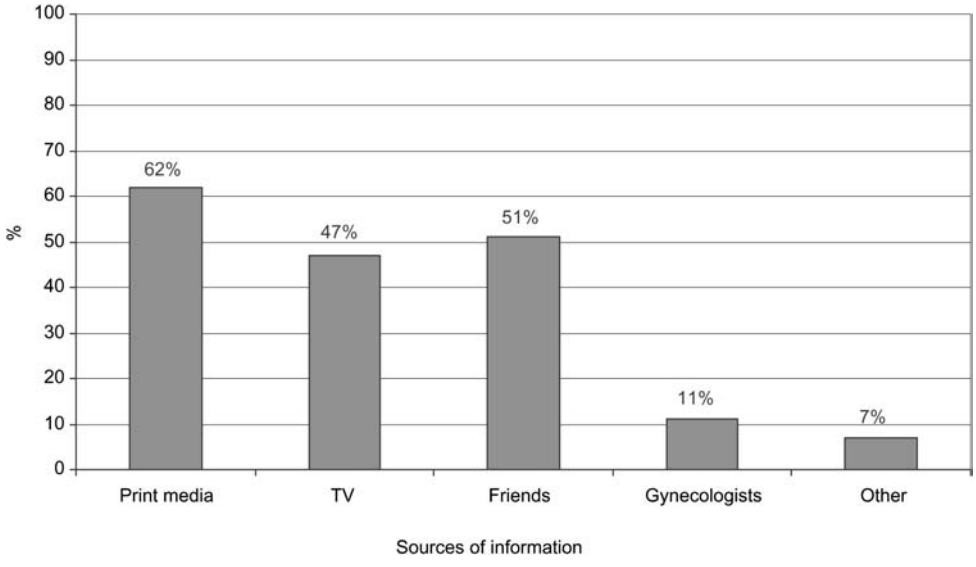

Figure 1 Sources of information about CS on demand.
(Frequency of citation in percent, several answers were allowed).

Table 2 Cesarean section on demand: Women's attitude, main reason for and against CS on demand for all women, those considering vaginal delivery (VD-group) and those opting for CS on demand (CS-group).

	Total		VD-group		CS-group		Significance
	n	(%)	n	(%)	n	(%)	P
Main reason for CS	184*	(100.0)	146*	(100.0)	32*	(100.0)	
No pain during labor	114	(62.0)	98	(67.1)	14	(43.8)	0.016**
No perineal damage	17	(9.2)	12	(8.2)	3	(9.4)	0.735
No loss of control	9	(4.9)	6	(4.1)	2	(6.3)	0.063
Less risky for the child	6	(3.3)	4	(2.7)	1	(3.1)	1.000
Time scheduling	7	(3.8)	6	(4.1)	1	(3.1)	1.000
Other	15	(8.2)	6	(4.1)	9	(28.1)	0.0001**
No reason pro	12	(6.5)	11	(7.5)	1	(3.1)	0.696
Don't know	4	(2.2)	3	(2.1)	1	(3.1)	0.551
Main reason against CS	189*	(100.0)	152*	(100.0)	32*	(100.0)	
No birth experience	101	(53.4)	87	(57.2)	12	(37.5)	0.051
More pain pp	11	(5.8)	8	(5.3)	2	(6.3)	0.686
Surgery with abdominal scar	23	(12.2)	16	(10.5)	7	(21.9)	0.085
Riskier for mother	21	(11.1)	19	(12.5)	1	(3.1)	0.207
Riskier for child	6	(3.2)	3	(2.0)	2	(6.3)	0.209
Other	16	(8.5)	15	(9.9)	1	(3.1)	0.313
No reason contra	8	(4.2)	2	(1.3)	6	(18.8)	0.0001**
Don't know	3	(1.6)	2	(1.3)	1	(3.1)	0.438
Attitude towards CS on demand	195*	(100.0)	155*	(100.0)	34*	(100.0)	
Pro	78	(40.0)	52	(33.5)	22	(64.7)	0.002**
Contra	75	(38.5)	69	(44.5)	6	(17.6)	0.004**
Uncertain	42	(21.5)	34	(21.9)	6	(17.6)	0.651

*Number referring to the total of respondents for each question. Differences between the sum of the two groups and total are due to missing values.

**Denotes those variables significant at $P < 0.05$ level.

women. With regard to awareness and attitudes, there were generally no differences between women from the urban and rural center as well as between nulliparous and parous women, but existed between those of the VD- and the CS-group.

Awareness and information

More than 90% of the participants were aware of the possibility to deliver by means of a CS on demand. Their sources of information were print media reports, television or friends. Women opting for a CS received their information more often from obstetricians. This pattern seems to reflect the fact that CS on demand is an issue currently discussed in the media. Based on the findings in our sample, there is no evidence that the issue is very frequently broached by gynecologists, but might rather be addressed by pregnant women opting for this mode of delivery.

Attitudes towards CS on demand

Ten percent of the participants stated that they would hypothetically deliver by CS on demand without medical or obstetrical indications, while another 7.5% seemed to at least consider this opportunity, but were still uncertain. This corresponds to surveys from UK and USA where 13–20% of pregnant women would prefer a CS [14, 15] and contradicts the review of McCourt that only a minority of women request a CS [18]. Gamble et al. demonstrated by means of a meta-analysis that in ten selected studies, the overwhelming majority of women requesting CS on demand had a previous complicated birth [7]. Even if a delivery without medical complications may be experienced as traumatic, vaginal operative deliveries and emergency CS are typically experienced as more negative. A negative birth experience seems to play a crucial role with regard to the request for a CS [5, 27]. We found that, besides the avoidance of pain during labor for several women (especially those opting for CS on demand), a negative birth experience and concerns of the child's well-being were important or the main reasons for a CS on demand. This pattern reveals that women with previously negative birth experiences seem to be led by their experience and concerns, while the answers of the others is more based on assumptions. The predominance of the mentioned factors is in accordance with the results of previous studies [2, 3, 25]. Women opting for CS on demand seem to assume that CS is less harmful to the child, and not to consider epidural anesthesia for pain relief during labor. As proposed by Simpson et al., these misconceptions, as well as pre-

existing and pregnancy related anxiety should be taken more into account in antenatal counseling [26].

Based on the results of their review, McCourt et al. questioned the high proportion of CS on demand presented by some authors and expressed their concerns with regard to conclusions on women's intentions to deliver by this mode [18]. In several studies, it remained unclear either how reasons for CS were determined or how women were counseled prior to decision-making. The authors concluded that contextual aspects, as well as socio-economical factors, may play a crucial role. In our study, intentions and attitudes did not differ between women attending the urban or rural center, and media and friends seemed to play a more important role in opinion-making than health professionals. The concern with regard to the child's well-being might reflect the demand for high standard and low risk medical care. When considering that almost as many women as those opting for CS on demand were ambivalent with regard to the preferred mode of delivery, and that negative birth experience was decisive for the intention to deliver by CS, early counseling adapted to individual needs and concerns is in our opinion crucial.

Limitations

The socio-demographic data showed that the participants' educational level was above average and that they were presumably highly motivated and therefore, represented a selected group, rather than being a national representation. As living in an urban or rural area has little impact on lifestyle in Switzerland nowadays, it is not surprising that there were no significant differences between the participants attending the urban and those attending the rural center. We therefore, declined from presenting detailed results focusing on this aspect. The questionnaire was administered anonymously, therefore not allowing any follow-up or obtaining of further information as to whether women considering CS on demand really received one and vice versa. Follow-up, on one hand, was not the aim of this survey, but is an objective of a still ongoing interventional trial at our study sites. On the other hand, the anonymity might have encouraged the participants to more freely express their opinion.

Conclusions

Our findings suggest that for about 10% of pregnant women in Switzerland, CS on demand is of major interest and concern. The majority of pregnant women seem to be aware of this option, and in our survey, almost half of them were in favor of free access to this mode of delivery for all women. As negative birth experience appears to be decisive for pregnant women's attitude towards CS on demand and their perception of CS seems to be partly based on misconceptions, antenatal counseling should be attentive to and take into consideration all these aspects and they should be addressed early in pregnancy.

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