



Patient-reported experience of delivery: results of the SIGO-AOGOI-AGUI National Survey

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ABSTRACT

Objective: few data have been published on the woman's experience of delivery: in order to provide updated information based on a large sample, the AOGOI SIGO and AGUI, the three Italian Scientific Society of gynecologists, conducted a large survey on the opinion of Italian women delivering in a large sample of Italian delivery rooms.

Methods: this is a cross sectional customer's satisfaction study. Eligible for the study were all women who delivered in the participating centers during the study period. The only exclusion criteria was the inability to understand written Italian language. An anonymous questionnaire was given to all women at the time of the hospital discharge by the nurse or the midwife.

Results: vaginal delivery was reported by 9582 (70.1%) women. With regard to pain control, the vast majority of women (76.0%) reported one or more types of methods for pain relief for at least some of the time during labor. Considering the answers to the question "How do you evaluate the usefulness during labor and delivery of the information received?", the proportion of women who responded inadequate or very inadequate was equal to 3.9% (95% CI: 3.6-4.2), but increased to 6.8% (95% CI: 5.0-8.6) in case of operative vaginal delivery, to 5.9% (95% CI: 4.8-7.0) on case of emergency CS (cesarean section) and 5.5% (95% CI: 4.5-6.4) in case of episiotomy (heterogeneity chi-square p value<0.0001). With regard to pain control, the percentage of inadequate or very inadequate responses was 8.9% (95% CI: 8.3-9.5) in the total series (only vaginal delivery and emergency CS) but increased to 13.0 (95% CI: 10.5-15.6) in case of vacuum assisted delivery. With regard to the overall evaluation by the women of the assistance in the obstetric department, the percentage of inadequate/very inadequate was 2.9 (95% CI: 2.7-3.2).

Conclusion: this study is at our knowledge the largest survey conducted in a Southern European country on the woman's experience of birth in hospital. Italian women are generally satisfied of their experience of birth, but information and pain control must be improved particularly in complicated labor.

Keywords: Birth; satisfaction; information

SOMMARIO

Obiettivo: pochi dati sono stati pubblicati sull'esperienza della donna relativa al parto. Al fine di fornire informazioni aggiornate basate su un ampio campione, l'AOGOI SIGO e AGUI hanno condotto un'ampia indagine sull'opinione delle donne che hanno partorito in un ampio campione di punti nascita italiani.

Metodi: erano eleggibili per lo studio tutte le donne che hanno partorito nei centri partecipanti durante il periodo di studio. L'unico criterio di esclusione era l'incapacità di comprendere la lingua italiana scritta. Un questionario anonimo è stato consegnato a tutte le donne al momento della dimissione dall'infermiere o dall'ostetrica.

Risultati: il parto vaginale è stato riportato da 9582 (70,1%) donne. Per quanto riguarda il controllo del dolore, la stragrande maggioranza delle donne (76,0%) ha riportato uno o più tipi di metodi per alleviare il dolore per almeno una parte del tempo durante il travaglio. Considerando le risposte alla domanda "Come valuti l'utilità durante il travaglio ed il parto delle informazioni ricevute?", la proporzione di donne che hanno risposto inadeguata o molto inadeguata è stata pari al 3,9% (IC 95%: 3,6-4,2), ma aumentava al 6,8% (IC 95%: 5,0-8,6) in caso di parto vaginale operativo, al 5,9% (IC 95%: 4,8-7,0) in caso di taglio cesario di emergenza e 5,5% (IC 95%: 4,5-6,4) in caso di episiotomia (chi-quadro eterogeneità p <0,0001). Per quanto riguarda il controllo del dolore, la percentuale di risposte inadeguato o molto inadeguato era 8,9% (IC 95%: 8,3-9,5) nella serie totale (solo parto vaginale e TC di emergenza) ma aumentava al 13,0 (IC 95%: 10,5-15,6) in caso di parto con ventosa. Per quanto riguarda la valutazione complessiva da parte delle donne dell'assistenza nel reparto ostetrico: la percentuale di inadeguata/molto inadeguata è stata pari al 2,9 (IC al 95%: 2,7-3,2).

Conclusioni: questo studio è a nostra conoscenza la più grande indagine condotta in un paese dell'Europa meridionale sull'esperienza della donna in ospedale. Le donne italiane sono generalmente soddisfatte della loro esperienza del parto, ma la comunicazione delle informazioni ed il controllo del dolore deve essere migliorato, in particolare in caso di TC di emergenza, o ventosa ostetrica.

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DOI: 10.14660/2385-0868-114

INTRODUCTION

Delivery represents an unique emotional experience in the life of a woman.

Besides medical safety, a fundamental component of obstetric care is a positive experience during delivery. In fact, a positive experience is important for the woman satisfaction and for lowering the risk of post-partum depression and the fear toward delivery and improving lactation⁽¹⁻³⁾

Patients' satisfaction is complex to measure because it is conditioned by personal expectations, with strong subjectivity.⁽⁴⁻⁶⁾ The investigations of satisfaction in obstetrics are even more difficult because the physiology of the birth can suddenly change to pathological conditions.

Few data have been published on the woman' perception of obstetric care^(7,8), showing generally that about ten percent of women have a negative birth experience. Along this line, in a survey conducted in the 1999 by the Italian National Institute of Health in 23 Italian hospitals and based on 2145 interviews, more than 90% of women declared to be satisfied about their experience of delivery.⁽⁹⁾

Recently, however, the results of a survey conducted by the DOXA group (an opinion research company) through online interviews (CAWI method) with 424 respondents representing a sample of mothers with children aged 0-14 years have been published. This study has reported that: 21% of women reported obstetric violence, 33% felt themselves inadequately assisted, 35% reported serious privacy or trust issues and 15% decided not to return to the same health facility for a subsequent delivery⁽¹⁰⁾

This study was criticized since data refer to a 15 years' interval and for the small sample size⁽¹¹⁾, but it had a large diffusion in the lay press.

In order to provide updated information based on a large sample, the AOGOI SIGO and AGUI conducted a large survey on the opinion of Italian women delivering in a large sample of Italian delivery rooms.

METHODS

This is a cross sectional customer's satisfaction study.

Eligible for the study were all women who delivered in the participating centers during the study period. The only exclusion criteria was the inability to understand written Italian language.

The questionnaire was given to all women at the time of the hospital discharge by the nurse

or the midwife. All women were advised of the anonymous modalities of the survey and were invited to fill the questionnaire in an anonymous form and post it in a box.

The questionnaire did not include any modalities of identification, excluding the mode of delivery and pain control.

Questionnaire

The questionnaire was developed by the Regional Health Department of Emilia-Romagna Region in the 1999, validated and used in a large survey on the quality of obstetrics services conducted in Emilia-Romagna.⁽¹²⁾

The questionnaire investigated different aspects of assistance in pregnancy. We considered the part related to childbirth assistance.

Specifically, we asked the women about:

-information(question: "How do you evaluate the usefulness during labor and delivery of the information received? (also, if performed, with reference to episiotomy and an emergency cesarean section (CS))";

-pain control during delivery (question: "How do you evaluate the methods of pain control?");

-the perceived assistance in the delivery room by the midwife and the obstetrician (questions: "How do you evaluate the assistance received by the midwife/by the obstetrician during delivery?");

the overall judgement on assistance in hospital (question: "Overall, how do you evaluate the quality of the services you received in the Obstetrics department?").

This questionnaire uses a four-point evaluation (very inadequate, inadequate, adequate, very adequate).

Moreover, a further question was added to the original questionnaire: "Would you recommend a friend of yours to give birth at our facility?" with closed answers: absolutely no, no, either yes or no, yes, absolutely yes.

The recruitment period (one to three months) was chosen independently by each participating center in the period March and September 2018.

A total of 13671 questionnaires were collected in 117 centers (located 49 in the North, 22 in the Centre and 46 in South of Italy). The mean number of questionnaire for center was 116,8 (median=96).

Data Analysis

Distribution of the four point evaluation score was computed as well as the 95% confidence intervals (CI) of proportions.

Differences in the frequencies among groups were tested using the usual chi square test. The

odds ratio (OR) and corresponding 95% confidence intervals of inadequate/very inadequate overall evaluation of the services received in the obstetrics department were also computed according to the answer to the other questions included in the survey.

RESULTS

Table 1 shows the distribution of the women who filled the questionnaire according to mode of delivery, control of pain and primary birth attendant.

Vaginal delivery was reported by 9582 (70.1%) women.

In case of spontaneous or operative vaginal delivery, episiotomy was reported by the 22% (2106) of the women. Elective caesarean section

was reported by 1957 (14.3%) women.

With regard to pain control, the vast majority of women (76.0% of women who delivered vaginally or by emergency CS) reported one or more types of methods for pain relief for at least some of the time during labor. Neuraxial block was reported by 1860 (16.4%) women who delivered spontaneously or by emergency CS. Drug-free methods for labor pain relief was reported by 72.7% (5822 out of 8005 who reported one or more method of pain control). The most commonly reported non pharmacologic method of pain relief was free position changes (40.9%), water immersion (27.9%) and hands-on techniques (10.2%).

In case of vaginal delivery, midwife was the the primary birth attendant in 3268 cases (34.1%) (**Table 1**).

Table 1.
Mode of delivery

	No	%
Total	13671	
Mode of delivery		
Vaginal delivery	9582	70.1
Elective CS	1957	14.3
Emergency CS	1751	12.8
Not reported	381	2.8
Episiotomy*		
No	6820	71.2
Yes	2106	22.0
Not reported	656	6.8
Pain control**		
None	2533	22.4
Neuraxial block	1860	16.4
Intravenous painkiler drugs	323	2.9
Water immersion	3165	27.9
Free position changes during labour	4638	40.9
Massage	1154	10.2
Other (including continuous one-to-one support)	1645	14.5
Not reported	795	7.0
Primary birth attendant *		
Midwife only	3268	34.1
Midwife and obstetricians	7946	82.9
I don't remember	847	8.8
Not reported	789	8.2

*only vaginal deliveries (n=9582)

** only vaginal deliveries and emergency CS (n=11333)

Table 2 considers the answers to the question “How do you evaluate the usefulness during labor and delivery of the information received? The proportion of women who responded inadequate or very inadequate was equal to 3.9% (95% CI: 3.6-4.2), but increased to 6.8% (95% CI: 5.0-8.6) in case of operative vaginal delivery, to 5.9% (95% CI: 4.8-7.0) on case of emergency CS and 5.5% (95% CI: 4.5-6.4) in case of episiotomy: the differences

were statistically significant (for chi-square heterogeneity p value<0.0001). After exclusion from the analysis of the questionnaires with missing data, the corresponding values were 4.6% (95%CI: 4.2-5.0) for the total series, 7.2% (95% Confidence Interval (CI): 5.3-9.1) in case of operative vaginal delivery, 6.7% (95%CI: 5.5-7.9) in case of emergency CS and 5.9% (95%CI: 4.8-6.9) in case of episiotomy (p value $\chi^2 < 0.0001$).

Table 2.

Response to the question: “How do you evaluate the usefulness during labor and delivery of the information received? (also, if performed, with reference to episiotomy and an emergency CS)”.

	Total	Spontaneous vaginal delivery	Vacuum assisted delivery	Elective CS	Emergency CS	Chi square	Episiotomy*
	No.(%)**	No.(%)	No.(%)	No.(%)	No.(%)		No.(%)
Number	13671	8833	749	1957	1751	<0.0001	2106
Very inadequate	208 (1.5)	129(1.5)	13(1.7)	22(1.1)	39(2.2)		35(1.7)
Inadequate	323(2.4)	181(2.0)	38(5.1)	29(1.5)	64(3.7)		80(3.8)
Adequate	6008(43.9)	4056(45.9)	409(54.6)	653(33.4)	773(44.1)		1134(53.8)
Very adequate	5031(36.8)	3381(38.3)	251(33.5)	618(31.6)	660(37.7)		712(33.8)
I dont know	486(3.6)	369(4.2)	21(2.8)	45(2.3)	38(2.2)		74(3.5)
Not reported	1615(11.8)	717(8.1)	17(2.3)	590(30.1)	177(10.1)		71(3.4)

*Only vaginal deliveries (n=9582)

** In some cases the sum does not add up the total due to missing values.

With regard to pain control, the percentage of inadequate or very inadequate responses was 8.9% (95%CI: 8.3-9.5) in the total series

(only vaginal delivery and emergency CS) but increased to 13.0 (95%CI: 10.5-15.6) in case of vacuum assisted delivery (**Table 3**).

Table 3.
Response to the question "How do you evaluate the methods of pain control?"

	Total No.=13671	Spontaneous vaginal delivery No.=8833	Vacuum assisted delivery No.=749	Elective CS No.=1957	Emergency CS No.=1751	Chi square	Episiotomy Yes No.=2106*	Chi square
	% inadequate/ very inadequate(N/ total)	p-value	% inadequate/ very inadequate(N/ total)	p-value				
Pain control***								
Total series	8.9(840/9457)**	8.5(626/7353)	13.0(88/675)	4.3(63/1478)	8.8(126/1429)	0.0004	11.2(207/1856)	0.0002
No pain control	14.3(237/1656)	12.7(181/1421)	30.4(21/69)	8.3(4/48)	25.0(20/80)	<0.0001	20.2(62/307)	0.0002
Neuraxial block and /or Intravenous painkiler drugs	6.9(141/2043)	5.5(89/1623)	10.0(15/150)	7.1(2/28)	14.9(31/208)	<0.0001	8.4(27/323)	0.0383
Drug-Free Methods	8.1(6578/148)	8.1(449/5536)	13.9(72/517)	3.7(36/975)	7.9(77/971)	<0.0001	11.6(174/1507)	<0.0001

*Only vaginal delivery

**Only vaginal delivery or elective caesarean.

*** Answers for different methods were allowed.

Table 4 considers the overall evaluation by the women of the assistance in the obstetric department: the percentage of inadequate/very inadequate was 2.9 (95% CI: 2.7-3.2) (3.0% (95% CI: 2.7-3.3) after exclusion of missing values).

We have also asked about the evaluation of the assistance received by the midwife and the obstetrician in the delivery room: the proportion of women who considered inadequate or very

inadequate the assistance were respectively 3.5% (95% CI: 3.2-3.8, based on 476 answers) for the midwife and 5.8% (95% CI: 5.4-6.2, based on 794 answers) for the obstetrician.

Finally the women were asked if they will recommend her friends to give birth at the delivery room: 0.4% (95% CI: 0.3-0.6) of women answered absolutely no, 0.9% (95% CI: 0.7-1.0) no and 90.5% (95% CI: 90.0-91.0) yes/absolutely yes (**Table 4**).

Table 4.
Response to the questions: "Overall, how do you evaluate the quality of the services you received in the obstetrics department?" and "Would you recommend a friend of yours to give birth at our facility?"

	No=13671	%
Overall, how do you evaluate the quality of the services you received in the obstetrics department?		
Very inadequate	191	1.4
Inadequate	211	1.5
Adequate	5953	43.6
Very adequate	6975	51.0
Not reported	341	2.5
Would you recommend a friend of yours to give birth at our facility?		
Absolutely no	60	0.4
No	117	0.9
Either yes or no	821	6.0
Yes	6744	49.3
Absolutely yes	5631	41.2
Not reported	298	2.2

Table 5 shows the relation between the overall evaluation of the quality of the services received in the obstetrics department and the woman's assessment of information, pain control and assistance in the delivery room by midwife and obstetrician: an inadequate/very inadequate

information, pain control and assistance in the delivery room by midwife and obstetrician were all associated with an increased risk of inadequate/very inadequate overall evaluation of the quality of the services received in the obstetrics department.

Table 5.

Relation between the overall evaluation of the quality of the services received in the Obstetrics department and assessment of information, pain control and assistance in the delivery room by midwife and obstetrician.

	Overall evaluation of the quality of the services received in the Obstetrics department					
	Adequate/very adequate	Inadequate/very inadequate	OR	95%CI	adjOR	95%CI
	No. (%)	No. (%)				
Information						
Adequate/very adequate	10748 (97.0)	139 (43.9)	1*		1*	
Inadequate/very inadequate	334 (3.9)	178 (56.2)	41.2	32.2-52.8	7.7	4.6-12.7
Pain control**						
Adequate/very adequate	9946 (92.9)	151 (49.0)	1*		1*	
Inadequate/very inadequate	755 (7.1)	157 (51.0)	13.8	10.8-17.7	2.7	1.7-4.4
Assistance by the midwife in the delivery room						
Adequate/very adequate	11699 (97.7)	182 (51.3)	1*		1*	
Inadequate/very inadequate	280 (2.3)	173 (48.7)	39.7	31.3-50.5	4.8	2.8-8.2
Assistance by the obstetrician in the delivery room						
Adequate/very adequate	7389 (92.4)	144 (60.0)	1*		1*	
Inadequate/very inadequate	611 (7.6)	96 (40.0)	18.1	13.8-23.8	5.2	3.1-8.6

OR=odds ratio; Adj= adjusted in turn for the above listed variables; CI= Confidence Interval.

*reference category.

**Only in case of vaginal delivery or emergency CS.

DISCUSSION

Before discussing the main results of this analysis, strengths and limitations should be considered.

Among the strengths we have to include the number of participating centers and the large sample size. The women who participated to this survey represents about the 7% of all women who delivered in Italy during the study period and the participating centers about the 20% of the Italian delivery rooms.

A second strength is in our opinion the fact that

the questionnaire was totally anonymous, since only few clinical data have been collected and no information on age or place of residence was included. This fact has offered the opportunity to the woman to fill the questionnaire without any fear.

About the limitations we have to consider that only about 50% of women who delivered in the study period in the participating centers filled the questionnaire (percentage based on information collected in 31 centers). This participation rates is

low for clinical or epidemiological studies, but can be considered acceptable for studies on opinion of a population.⁽¹³⁾ Along this line, a similar percentage of response was reported in a study on women's satisfaction with intrapartum and postpartum care conducted in Sweden.⁽³⁾ and in most of studies quoted in the review by Hodnett.⁽⁵⁾ In any case the general clinical characteristics of participating women are similar with national data. For example, the rate of cesarean section in our population and in Italy were respectively about 30 and 35 (based on data referred to 2017⁽¹⁴⁾).

The results of this large national survey show that most of women consider adequate or very adequate the assistance received during deliver and hospital rest and 90,5% of women answered yes or absolutely yes to the answer "Would you recommend a friend of yours to give birth at our facility?".

These results should be discussed in comparison with the limited Italian and worldwide data published on the issue.

As previously quoted a survey conducted in Italy by the National health Institute reported that 96% declared to be satisfied or more about their experience of delivery.⁽⁹⁾

In a study conducted with the questionnaire used in our survey by Emilia-Romagna Region on 2269 women, 90% of women were satisfied of the control of pain and 92% of information received by the gynecologist or the midwife about delivery and its procedures.⁽¹²⁾

Conversely, a recent an online survey conducted by Ravaldi et al (10) including 424 respondents has reported 33% felt inadequately assisted, 35% reported serious privacy or trust issues, 15% decided not to return to the same health facility and 6% (based on only 25 responders) did not want any more children specifically because of the treatment received.

The results of this latter survey, although based on answer to question not totally comparable with those included in our questionnaire, are not consistent with our results. Although we have no question about privacy, it is difficult to consider that satisfied

women may have serious concern about their privacy in hospital.

Part of these differences may be also due to the fact that the Ravaldi's survey has included women who delivered during a 15 years period and obstetric assistance has changed overtime. Further, it is recognized that some women tend to change the assessment of delivery over time from positive to less positive.⁽¹⁵⁾

With regard to international data, in a survey conducted in the US on the experience in hospital, less than 10% of mothers indicated they ever felt they were treated poorly in the hospital.⁽⁸⁾ Likewise, in a study conducted on 2686 Swedish-speaking women, ten percent of women were not satisfied with intrapartum care.⁽³⁾

Some critical aspects emerged by our analysis. First of all, information was considered inadequate or very inadequate by 7% of women who delivered by vacuum-assisted birth and to about 6% in case of emergency cesarean section or episiotomy, proportions higher than among women who delivered spontaneously.

Likewise 13% of women who delivered by vacuum assisted birth declared inadequate or very inadequate the pain control.

It has been suggested that the influence of pain and pain relief on subsequent satisfaction are neither as obvious, as direct, nor as powerful as the influences of the attitudes and behaviors of caregivers.⁽⁵⁾ In our study, however, women dissatisfied about pain control reported an higher proportion of negative evaluation of overall assistance in hospital.

In conclusion, despite the increasing interest on how care is experienced by users (particularly pregnant women)⁽¹⁶⁾ few data are available on these aspects from different countries with different cultural view and health systems. This study is at our knowledge the largest survey conducted in a Southern European country on the woman's experience of birth in hospital.

Italian women are generally satisfied of their experience of birth, but information and pain control must be improved particularly in complicated labor.

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