

## FATORES ASSOCIADOS AO RELATO DE EPISIOTOMIA EM PARTURIENTES ATENDIDAS EM UM HOSPITAL DO OESTE CATARINENSE

## FACTORS ASSOCIATED WITH THE REPORT OF EPISIOTOMY IN PARTURIENTS AT A HOSPITAL IN THE WEST SANTA CATARINA

## FACTORES ASOCIADOS AL INFORME DE EPISIOTOMÍA EN PARTURIENTAS DE UN HOSPITAL EN EL OESTE SANTA CATARINA

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### RESUMO

**Objetivo:** identificar os fatores associados ao relato de episiotomia em parturientes atendidas em um hospital referência do oeste catarinense. **Métodos:** trata-se de estudo transversal realizado com mulheres submetidas a parto vaginal hospitalar. A coleta de dados ocorreu diariamente, entre agosto e setembro de 2016, por meio de questionário padronizado e informações complementadas pelo prontuário e cartão pré-natal. A variável dependente foi o relato da realização de episiotomia. Os dados foram submetidos à análise bivariada e multivariada. **Resultados:** foram incluídas no estudo 136 participantes. A episiotomia foi relatada por 84 (61,8%) das mulheres. Ser nulípara e ter tido número excessivo de toques vaginais ficaram associados à realização de episiotomia no modelo final de regressão logística multivariada. **Conclusão:** apesar de esforços no sentido de diminuir as excessivas intervenções no processo de parturição, a realidade da assistência obstétrica brasileira merece atenção e profundas mudanças. É necessário que intervenções não recomendadas e danosas como a episiotomia estejam em consonância com as boas práticas obstétricas e que intervenções realizadas de forma excessiva, como os toques vaginais, sejam evitadas.

**Descritores:** Saúde da Mulher; Parto Normal; Períneo; Episiotomia; Paridade.

### ABSTRACT

**Objective:** to identify factors associated with the episiotomy report in parturients attended at a reference hospital in the West of Santa Catarina, Brazil. **Methods:** a cross-sectional study with women undergoing vaginal delivery in the hospital. Data collection was performed daily, between August and September 2016, through a standardized questionnaire and information complemented with consultation to the medical records and prenatal card. The dependent variable was the report of the episiotomy. Data were submitted to bivariate and multivariate analysis. **Results:** one hundred thirty six participants were included in the study. Episiotomy was reported by 84 (61.8%) women. Being primiparous and reporting an excessive number of vaginal touches were associated with episiotomy in the final multivariate logistic regression model. **Conclusion:** despite efforts to reduce excessive interventions in the parturition process, the reality of Brazilian obstetric care deserves attention and profound changes. It is necessary that non-recommended and harmful interventions, such as the episiotomy, are in accordance with good obstetrical practices and that excessive interventions, such as vaginal touches, must be avoided.

**Descriptors:** Women's Health; Natural Childbirth; Perineum; Episiotomy; Parity.

### RESUMEN

**Objetivo:** Identificar los factores asociados con el informe de episiotomía en parturientas tratadas en un hospital de referencia en el oeste de Santa Catarina. **Métodos:** Es un estudio transversal realizado con mujeres sometidas a parto vaginal en el hospital. La recolección de datos se produjo diariamente, entre agosto y septiembre de 2016, por medio de un cuestionario estandarizado e información completada con el prontuario y la tarjeta prenatal. La variable dependiente fue el informe de episiotomía. Los datos se sometieron a análisis bivariados y multivariados. **Resultados:** 136 participantes fueron incluídas en el estudio. La episiotomía fue reportada por 84 (61,8%) de las mujeres. Ser nulípara y tener un número excesivo de toques vaginales se asoció con episiotomía en el modelo final de regresión logística multivariada. **Conclusión:** A pesar de los esfuerzos para reducir las intervenciones excesivas en el proceso de parto, la realidad de la atención obstétrica brasileña merece atención y cambios profundos. Las intervenciones no recomendadas y nocivas, como la episiotomía, deben estar en línea con las buenas prácticas obstétricas y deben evitarse las intervenciones excesivas, como los toques vaginales.

**Descriptor:** Salud de la Mujer; Parto Normal; Perineo; Episiotomía; Paridad.

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## INTRODUCTION

Obstetric care in Brazil has been the object of study in recent years to improve the attention directed to pregnant women, parturients, puerperal women and their newborns in health services. Such assistance is still known for its goals of speed and opportunism through the attempt of temporal control of labor and delivery, disrespect for women's autonomy in the process of parturition and agility of the birth of the baby<sup>1-2</sup>. Many of the interventions performed disregard scientific evidence and are mostly based on the routines adopted by health services and medical decisions, generating iatrogenic potential for women and their children<sup>1-2</sup>.

Some interventions used routinely, especially in nulliparous, such as artificial rupture of amniotic membranes, administration of oxytocin in the first clinical period of labor (dilation); uterine fundus pressure at birth (Kristeller maneuver) and perineal enlargement caused by a surgical incision with scissors or scalpel blade (episiotomy) in the expulsive period<sup>(2-3)</sup> may be harmful to the binomial, besides being configured in obstetric violence.

Regarding episiotomy, it is noteworthy that its routine practice not only lacks a scientific basis, but can bring intra and postoperative complications<sup>(4)</sup>, which indicate that its use should be very selective. Studies assessing risk factors for episiotomy occurrence are frequent in the international literature, being scarce with Brazilian women. They show some variables that are at risk for episiotomy, and the most observed are: nuliparity, lithotomy, higher birth weight of the newborn, higher maternal age and instrumental delivery<sup>(5-7)</sup>.

Currently, episiotomy rates are still high worldwide. In France<sup>(8)</sup> it is equivalent to 19.9%, in Colombia<sup>(9)</sup> to 30.48% and in Spain<sup>(7)</sup> to 50%. In Brazil, episiotomy rates are 53.5%<sup>(10)</sup>, varying according to the region of the country. A study that aimed to describe practices and interventions used during labor and delivery and factors associated with these practices in puerperal women in the state of Sergipe, evidenced the occurrence of episiotomy in 43.9% of women included in the study<sup>(11)</sup>.

Given that episiotomy rates are quite high in Brazil and that its performance needs to be selective, it is essential to identify the risk factors associated with this obstetric intervention in order to contribute to the critical assessment of the need for its use, qualifying the professional

assistance in childbirth. Moreover, this study may contribute to the production of Brazilian knowledge about the practice of episiotomy.

Given the pressing issue of producing data about the reality of southern Brazil about performing unnecessary interventions in childbirth, this study aimed to identify the factors associated with the report of episiotomy in parturients treated at a reference hospital in western Santa Catarina.

## METHODS

A cross-sectional study was carried out to characterize all deliveries attended at a referral hospital in the municipality of Chapecó, Santa Catarina, southern Brazil. Inclusion criteria were: being postpartum, being in the first 48 postpartum hours and being admitted to the maternity ward. Exclusion criteria were: being under 18 years old, not speaking Portuguese and being in clinical conditions that precluded participation in the study. It is noteworthy that a language-related exclusion criterion was established because western Santa Catarina has received many Haitian immigrants in recent years and they have difficulties in understanding and speaking the Portuguese language.

Data collection was performed daily between August and September 2016, through a standardized questionnaire applied by the researchers at the bedside. The questionnaire was designed especially for this research and addressed information regarding obstetric antecedents, current delivery, newborn (s) and prenatal care. Information was complemented by consultation with the medical record and prenatal card of each postpartum interviewed. To avoid selection bias, the research participants were selected by interviewers on duty, every day of the week, with the entire study period covered.

In the present article, only vaginal deliveries were analyzed from the total sample of the base study. In this study, the dependent variable was the report of episiotomy reported by the interviewee. The question about performing the episiotomy was made in simple language asking the woman about a cut in the vagina region. Exposure variables were selected and adapted based on previous studies<sup>(5,7)</sup> and the Nascir no Brasil questionnaire study<sup>(12)</sup>.

The variable "repetitive touches" was defined according to the perception of the postpartum woman by answering the following

question: Were repetitive touch examinations performed during labor?

Data collected from the Department of Informatics of the Unified Health System (DATASUS) showed that Chapecó accounted for 3,183 live births in 2013 (year in which the project was built), with 74 births resulting from double pregnancy, none from triple pregnancy and three births by pregnancy type ignored. Considering these data, the number of 3,146 postpartum women for the year 2013 was raised. From these findings and percentages of episiotomy according to the exposure "lithotomy position during childbirth" described in the literature<sup>(7)</sup>, it resulted in a total sample size of 142 postpartum women, considering the study power of 80% and a confidence level of 95%.

Backward multivariate logistic regression was used to identify factors associated with self-reported episiotomy. The variables associated with the outcome with  $p \leq 0.20$  in the bivariate analysis were included in the multivariate model. The analysis was performed using STATA version 12 software.

The basic research was approved by the Research Ethics Committee of the Federal University of Fronteira Sul, under opinion number 1.575.071 and all interviewees signed the

Informed Consent Form before granting the interview.

## RESULTS

About the mothers who met the inclusion criteria, three refused to participate in the study. In total, 343 women were interviewed from August 10 to September 30, 2016, for the base study. On these, 137 (39.9%) underwent vaginal delivery. In six deliveries there were reports of the need for interventions for fetal extraction using forceps. One of the participants was excluded from the analysis because she was unable to answer, when asked, during the interview, if she was submitted to episiotomy. Thus, the final sample of this study consisted of 136 postpartum women. Episiotomy was reported by 84 (61.8%) women, while 67 (49.3%) reported having suffered Kristeller's maneuver during the expulsive period.

The average age of women was 26.7 years-old (18-42), 14% lived in municipalities next to Chapecó, most (60.3%) had white skin color and all of them had pre-natal care. Most of the interviewees did not present risk events during the gestational period; had a companion of their choice during labor, childbirth and/or postpartum; had deliveries that occurred at term and resulted in births of male babies, as shown in Table 1.

Table 1 - Sociodemographic characteristics, clinical and laboratory variables, variables related to health service and postpartum women, and sex of the baby in parturients treated at a reference hospital in Western Santa Catarina, 2016.

Characteristics	Total of postpartum women n (%)	Average (min.-max.)
<b>Sociodemographics</b>		
Age		26,7 (18-42)
White skin color	82 (60,3)	
Live in Chapecó	117 (86,0)	
<b>Clinical and laboratory variables</b>		
Risk events during pregnancy *	11 (8,1)	
Average gestational age		
Preterm (less than 37 weeks of gestation)	10 (7,4)	
Term (between 37 and 41 weeks and 6 days)	126 (92,6)	
HIV reagent	01 (0,7)	
VDRL reagent	02 (1,5)	
<b>Health service-related variables</b>		
Pre-natal Care	136 (100%)	

**Variables related to postpartum women**

Allowing companion	134 (98,5)
Companion during the pre-partum	132 (97,1)
Companion in the expulsive	133 (97,8)
Companion after partum	133 (97,8)

**During the gestation she has felt like**

Inferior/Diminished	03 (2,2)
Intimidated	03 (2,2)
Despised	03 (2,2)
Frightened	39 (28,7)

**Sex of baby**

Male	76 (55,9)
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Source: Prepared by the authors.

\* Gestational diabetes, high blood pressure, placenta previa, eclampsia and/or cerclage.

In the bivariate model, the following variables obtained  $p \leq 0.20$  and were selected for the multivariate model: under 30 years-old, no previous pregnancy (nulliparous), being in

lithotomic position, during the expulsive period, having undergone Kristeller's maneuver and reported excessive vaginal touch during the parturition process, as observed in Table 2.

Table 2 - Bivariate analysis of factors associated with the report of episiotomy in parturients treated at a reference hospital in Western Santa Catarina, 2016.

Biological variables	Self-Referred Episiotomy		OR (IC 95%)	p
	No n (%)	Yes n (%)		
<b>Postpartum women's age</b>				
18 to 29 years-old	31 (34,4)	59 (65,6)	1,0	
30 or older	21 (45,6)	25 (54,4)	0,63 (0,30 – 1,29)	0,205
<b>Socioeconomic variables</b>				
<b>City where they live</b>				
Chapecó	44 (37,6)	73 (62,4)	1,0	
Other city	08 (42,1)	11 (57,9)	0,83 (0,31 – 2,22)	0,708
<b>Self-referred color skin</b>				
White	34 (41,5)	48 (58,5)	1,0	
Black, parda, yellow, or indigenous	17 (32,1)	36 (67,9)	1,50 (0,73 – 3,10)	0,273
<b>“Previous pregnancy</b>				
Yes (multiparous)	44 (51,8)	41 (48,2)	1,0	
No (nulliparous)	8 (15,7)	43 (84,3)	5,77 (2,42 – 13,7)	0,000
<b>Variables related to the partum</b>				
<b>Forceps use</b>				
No	51 (39,2)	79 (60,8)	1,0	
Yes	01 (16,7)	05 (83,3)	3,23 (0,37 – 28,4)	0,291
<b>Financing of childbirth</b>				
Private	01 (16,7)	05 (83,3)	1,0	
Public	51 (39,5)	78 (60,5)	0,31 (0,35 – 2,69)	0,286
<b>Companion during expulsion</b>				
No	01 (33,3)	02 (66,7)	1,0	
Yes	38 (38,3)	82 (61,6)	0,80 (0,07 – 9,09)	0,860
<b>Free movements during the labor</b>				
Yes	47 (40,2)	70 (59,8)	1,0	
No	05 (26,3)	14 (73,7)	1,88 (0,63 – 5,57)	0,255
<b>Position of lithotomy during expulsion</b>				
No	11 (57,9)	08 (42,1)	1,0	
Yes	41 (35,0)	76 (65,0)	2,55 (0,95 – 6,84)	0,063
<b>Kristeller's Maneuver</b>				
No	30 (43,5)	39 (56,5)	1,0	
Yes	22 (32,8)	45 (67,2)	1,57 (0,78 – 3,16)	0,203
<b>Skin to skin contact with baby as soon as it was born</b>				

Yes	48 (38,7)	76 (61,3)	1,0	
No	04 (33,3)	08 (66,7)	1,26 (0,36 – 4,42)	0,715
<b>Minimum of six prenatal appointments</b>				
Yes	42 (36,5)	73 (63,5)	1,0	
No	10 (47,6)	11 (52,4)	0,63 (0,25 – 1,61)	0,338
<b>Repetitive vaginal touches</b>				
No	09 (52,9)	08 (47,1)	1,0	
Yes	<b>43 (36,1)</b>	<b>76 (63,9)</b>	<b>1,99 (0,71 – 5,53)</b>	<b>0,188</b>
<b>To hold the baby in the first minute</b>				
7 to 10	49 (39,9)	74 (60,2)	1,0	
6 or less	01 (20,0)	04 (80,0)	2,65 (0,29 – 24,4)	0,390
<b>Baby Weight (Continuous)</b>				
Weight average in grams	3.179 (1.620 – 4.430)		0,99 (0,99 – 1,00)	0,470

Source: Prepared by the authors.

Being nulliparous and reporting excessive number of vaginal touches were associated with

reporting episiotomy in the final backward multivariate logistic regression model (Table 3).

Table 3 - Multivariate analysis of factors associated with reports of episiotomy in parturients treated at a reference hospital in Western Santa Catarina, 2016.

Variables	OR (IC 95%)	p
<b>Previous pregnancy</b>		
Yes (multiparous)	1,0	
No (nulliparous)	6,46 (2,63 – 15,9)	0,000
<b>Repetitive vaginal touches</b>		
No	1,0	
Yes	2,85 (0,89 – 9,08)	0,077

Source: Prepared by the authors.

Nulliparous women (OR = 6.5; 95% CI = 2.6 - 15.9) and women who reported repetitive vaginal touch during the parturition process (OR = 2.8; 95% CI = 0.9 - 9, 1) were more likely to undergo episiotomy. This last association had a borderline p value of 0.07, but it was decided to remain in the final model due to the plausibility of its association.

## DISCUSSION

In this study, having no previous pregnancy (being nulliparous) and reporting repetitive vaginal touches were associated with self-reported episiotomy.

The rate of vaginal births (39.9%) is considered a low percentage for a public hospital compared to the findings of the Nascer in Brazil survey, which described a 48% rate of vaginal births across the country, reaching 54% when analyzing the public sector<sup>(12)</sup>.

It was found that the episiotomy and Kristeller's maneuver stood out in relation to the interventions performed during the expulsive period and that, in this study, the episiotomy rate (61.8%) performed in the women interviewed was higher than values found in other studies in Brazil<sup>(1,13-14)</sup> with reports ranging from 7.2% to 56%.

The conception that such interventions can be configured in a way to shorten childbirth<sup>(2)</sup> is still defended by professionals who work in the obstetric model centered on the service and on the professional. However, the document National Guidelines on Assistance to Normal Birth recommends not performing routine episiotomy during spontaneous vaginal delivery<sup>(3)</sup>.

In this sense, it is argued that the practice of episiotomy should be restricted and that professionals should be encouraged to use their clinical judgment to decide when the procedure

is really necessary. Research has shown that perineal incision during the expulsive period has been applied more carefully in some institutions, especially when there is the exclusive or majority participation of obstetric nurses in childbirth care<sup>(4,13-14)</sup>.

Decreased episiotomy practice is already a reality in countries such as France, the United States and England. In France, the rate of episiotomy in primiparous women decreased from 71% in 2003 to 44% in 2010<sup>(15)</sup>. In the United States, the episiotomy rate was 17% in 2012<sup>(16)</sup>. In England, rates varied according to the model of care provided, corresponding to 8.6% in midwife-led care (midwife-care) deliveries in a normal delivery center and 19.3% of birth interventions accompanied by a doctor and an obstetric nurse in hospital units<sup>(17)</sup>.

The prevalence of Kristeller's maneuver in the studied population reached a percentage higher than the values reported in other studies conducted with Brazilian women, describing from 9.3% in Belo Horizonte<sup>(13)</sup> to 37% prevalence in women with habitual obstetric risk<sup>1</sup>. The reports of the women interviewed indicated the use of a harmful intervention that continues to be practiced in the obstetric environment, despite the lack of recommendation by the Ministry of Health and the World Health Organization. This unnecessary and risky conduct can be considered obstetric violence for violating women's rights and bodily integrity, since, in addition to exposure to risks, it can cause parturient pain and discomfort during and after its performance<sup>(13)</sup>. The National Normal Birth Assistance Guidelines recommend that Kristeller's maneuver not be performed during the second clinical period of labor<sup>(3)</sup>. There is no evidence of the benefit of this maneuver and, moreover, there are indications that such an intervention constitutes a risk factor for maternal and fetal morbidity<sup>(18)</sup>.

The variables being nulliparous and reporting repetitive vaginal touches during labor were in the final model, being associated with the report of episiotomy. Some studies<sup>(1,5-7,14)</sup> have shown a higher frequency of episiotomy in women who experienced parturition for the first time. Such association demands the need for reinforcement in the guidelines provided to pregnant women during prenatal care. In this context, these women may not recognize being subjected to obstetric violence for misinformation or misinformation, which may

lead to submission and conscious or unconscious acceptance of actions harmful to their health<sup>(19)</sup>.

We opted for the permanence of the variable related to repetitive vaginal touches in the final model, because the excess of touches may indicate too many interventions by the health professional that assists parturients, constituting an obstetric violence. Thus, if interventions are performed from the beginning of labor, they are likely to continue throughout the parturition process. Since a borderline *p* value was found, it is believed that a larger sample of women could evidence a stronger association.

There are few studies showing vaginal touch as a variable associated with episiotomy. One study indicated the performance of repetitive vaginal touches to obstetric violence, because it is a painful procedure and without clinical justification<sup>(20)</sup>. Another study showed that only 7% of pregnant women referred to the need to receive vaginal touch during prenatal consultations<sup>(21)</sup>.

In this sense, it is important to understand that in prenatal low-risk pregnancies and/or women who have no evidence or imminence of premature labor, this procedure is not justified. The modification of the cervix is necessarily linked to the presence of regular uterine contractions, except in situations in which the pregnant woman has some anatomical alteration of the cervix and/or alteration of the cervical length and/or other finding that indicates greater attention and need for evaluation.

Because the hospital where the study was conducted is a field of practice for undergraduate courses in Medicine and Nursing, as well as residency in Gynecology and Obstetrics, it is believed that the number of excessive vaginal touches may be related to the presence of these students and their presence and training process.

Performing vaginal touches is an invasive procedure, even if it is useful for ascertaining the evolution of labor, lowering the fetal presentation, among other tasks. However, the possibility of using noninvasive practices for this evaluation is indicated, such as the observation of the purple line in the sacrococcygeal region and the body expression of women, which usually change during the parturition process. Regarding the purple line, a research that aimed to determine if this line can be used to estimate the progression of labor concluded that, although it is not indicated for routine use, it presented

correlation with the parameters of evolution of labor<sup>(22)</sup>.

The lithotomy was initially presented in the bivariate model, a p value of 0.063, being removed after control in the multivariate model with p value greater than 0.100. Considered an obstetric violence still practiced<sup>(23)</sup>, other alternatives have emerged to replace the classic lithotomy, especially vertical positions such as the semi-seated, sitting, squatting and immersion in water<sup>18</sup>. Even so, the use of lithotomic position is justified by some professionals because it facilitates the visualization of the birth canal and enables the traction of the baby<sup>(24)</sup>. Thus, it is believed that being in positions other than lithotomic may be a protective factor regarding the access of the professional to the woman's perineum, since lithotomy may favor the performance of episiotomy.

A limitation of this study is the fact that the episiotomy was self-reported, but because it is a mid-sized surgical incision and the question was asked no later than three days after delivery, it is believed that the interviewees did not have difficulty reporting this event. However, it is recognized that because the procedure is not always communicated to women<sup>(25)</sup>, some participants may end up not knowing about the intentional cut performed on the perineum.

Another limitation is due to the effective sample size of the present analysis, which was 136 postpartum women. This number was slightly lower than the calculated sample number (142) because this study is a smaller arm of a project that reached the expected sample for its execution (343 postpartum women). Although this sample was smaller, the statistical analyzes have showed satisfactory confidence intervals and the main variable of the final model presented  $p < 0.01$ .

## CONCLUSION

Despite efforts to reduce excessive interventions in the parturition process, the reality of Brazilian obstetric care still needs attention and profound changes. These should mainly involve the restructuring of health services, the paradigm shift in training and the qualification of professionals who already work in care for pregnant women.

Harmful and unintended interventions such as episiotomy and Kristeller's maneuver must be in line with good obstetric practices and over-performed interventions such as vaginal

touching should be avoided. The maintenance of the repetitive touches variable associated with the occurrence of episiotomy makes it possible to contribute to the knowledge of risk factors for intervention in southern Brazil.

Such changes require not only a need for (re) adequacy of technical practices, but also the adoption of a posture that requires the professional to observe more before intervening and wait before acting, so that nature, being respected, discard the possibilities of interventions.

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