



City Research Online

City St George's, University of London

Citation: Lopes, G. A., Leister, N. & Riesco, M. L. G. (2019). Perineal care and outcomes in a birth center. *Texto & Contexto - Enfermagem*, 28, e20190168. doi: 10.1590/1980-265x-tce-2018-0168

This is the published version of the paper.


This version of the publication may differ from the final published version. To cite this item please consult the publisher's version.

Permanent repository link: <https://openaccess.city.ac.uk/id/eprint/24467/>

Link to published version: <https://doi.org/10.1590/1980-265x-tce-2018-0168>

Copyright and Reuse: Copyright and Moral Rights remain with the author(s) and/or copyright holders. Copies of full items can be used for personal research or study, educational, or not-for-profit purposes without prior permission or charge, unless otherwise indicated, provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way. For full details of reuse please refer to [City Research Online policy](#).

PERINEAL CARE AND OUTCOMES IN A BIRTH CENTER

Gisele Almeida Lopes¹ 
Nathalie Leister²
Maria Luiza Gonzalez Riesco¹

¹Universidade de São Paulo, Escola de Enfermagem, Pós-Graduação em Enfermagem. São Paulo, São Paulo, Brasil.

²University of London, School of Health Sciences, Centre for Maternal & Child Health Research, British Academy Newton International Research Fellow. London, England.

ABSTRACT

Objective: to analyse the perineal outcomes in childbirth and post-partum perineal care in a freestanding birth centre.

Method: a cross-sectional study, with data collection performed in the women's birth records forms from Casa Angela, a freestanding birth centre, São Paulo, Brazil, in 2016-2017 (n=415). The following data was analysed: occurrence and perineal tear degree; maternal, neonatal and birth care-related variables; perineal suture prevalence; complications in wound healing and natural methods on perineal care. Data were subjected to descriptive, inferential and multiple analyses.

Results: in 11.8% of women, the perineum was kept intact, 61.9% had spontaneous first-degree tear and 26.3% had second-degree tear. The variables related to the occurrence and higher spontaneous degree tears were maternal age and second period of childbirth >2 hours. The protective factors against the occurrence and higher degree tears were number of previous vaginal childbirths and maternal position different from vertical during childbirth. Perineal suture was performed in 16.0% and 70.6% of women with spontaneous first- and second-degree tears, respectively. The main perineal complications after birth were edema (53.6%) and pain (29.4%); and the perineal suture increased the chance for these complications (OR=2.5; 95%CI 1.5-4.3). Perineum icepack compress was used in 53.8% of women during post-partum period.

Conclusion: maternal and health-care related factors were associated to the prevalence and degree of spontaneous perineal tear. First-degree spontaneous perineal tears were prevalent and sutured in a low number of women. There were more complications in the wound healing process when the perineal suture was performed, regardless the tear degree. The number of natural methods in post-partum perineal care was higher than the use of medicines.

DESCRIPTORS: Childbirth. Parturition. Lacerations. Birthing centres. Obstetric nursing.

HOW CITED: Lopes GA, Leister N, Riesco MLG. Perineal care and outcomes in a birth center. *Texto Contexto Enferm* [Internet]. 2019 [cited YEAR MONTH DAY]; 28:e20180168. Available from: <http://dx.doi.org/10.1590/1980-265X-TCE-2018-0168>

DESFECHOS E CUIDADOS PERINEAIS EM CENTRO DE PARTO NORMAL

RESUMO

Objetivo: analisar os desfechos perineais no parto e o cuidado perineal pós-parto em um Centro de Parto peri-hospitalar.

Método: estudo transversal, com coleta de dados nos prontuários das mulheres que deram à luz no Centro de Parto peri-hospitalar Casa Angela, em São Paulo, Brasil, em 2016-2017 (n=415). Foram analisados: ocorrência e grau da laceração perineal e variáveis maternas, neonatais e assistenciais relacionadas; prevalência de reparo perineal; complicações na cicatrização e métodos naturais de cuidado perineal. Os dados foram analisados por estatística descritiva e inferencial, com análise bivariada e múltipla.

Resultados: o períneo manteve-se íntegro em 11,8% das mulheres, 61,9% tiveram lacerações de primeiro grau e 26,3% de segundo grau. As variáveis relacionadas à ocorrência e maior grau das lacerações foram idade materna e período expulsivo do parto >2 horas. Os fatores protetores contra a ocorrência e o maior grau das lacerações foram número de partos vaginais anteriores e posição materna diferente da vertical durante o parto. O reparo perineal foi realizado em 16% e 70,6% das mulheres com lacerações de primeiro e segundo graus, respectivamente. As complicações perineais predominantes foram edema (53,6%) e dor (29,4%) e o reparo aumentou a chance dessas complicações (OR=2,5; 95%IC 1,5-4,3). A compressa de gelo no períneo foi usada em 53,8% das mulheres no pós-parto.

Conclusão: fatores maternos e assistenciais associaram-se à prevalência e grau da laceração perineal. Houve predomínio das lacerações de primeiro grau, reparadas em um número reduzido de mulheres. Quando o reparo perineal foi realizado, houve mais complicações no processo de cicatrização, independentemente do grau da laceração. O número de métodos naturais no cuidado perineal após o parto foi superior ao uso de medicamentos.

DESCRITORES: Parto. Períneo. Lacerações. Centro de assistência à gravidez e ao parto. Enfermagem obstétrica.

RESULTADOS Y CUIDADOS PERINEALES EN UN CENTRO DE PARTO NORMAL

RESUMEN

Objetivo: analizar los resultados perineales en el parto y el cuidado perineal post-parto en un Centro de Parto peri-hospitalario.

Método: estudio transversal con recolección de datos en los registros de parto de las mujeres que dieron a luz en el Centro de Parto Casa Angela, que atiende al parto peri-hospitalario, en São Paulo, Brasil, en 2016-2017 (n=415). Se analizaron: ocurrencia y grado de los desgarros perineales y variables maternas, neonatales y asistenciales relacionadas; prevalencia de reparación perineal; complicaciones en la cicatrización; métodos naturales del cuidado perineal. Los datos se analizaron por estadística descriptiva e inferencial, con análisis bivariado y múltiple.

Resultados: el períneo se mantuvo intacto en el 11,8% de las mujeres, el 61,9% tuvieron desgarros de primer grado, y el 26,3% de segundo grado. Las variables relacionadas con la ocurrencia y el mayor grado de los desgarros fueron la edad de la madre y el período expulsivo del parto >2 horas. Los factores protectores contra la ocurrencia y el mayor grado de los desgarros fueron el número de partos vaginales anteriores y la posición materna diferente de la vertical durante el parto. La reparación perineal se realizó en el 16% y el 70,6% de las mujeres con desgarros de primer y segundo grado, respectivamente. Las complicaciones perineales predominantes fueron edema (53,6%) y dolor (29,4%) y la reparación aumentó la probabilidad de estas complicaciones (OR=2,5; 95%IC 1,5-4,3). La compresa de hielo en el períneo se utilizó en el 53,8% de las mujeres en el período post-parto.

Conclusión: los factores maternos y asistenciales se asociaron con la prevalencia y el grado del desgarro perineal. Hubo predominio de desgarros de primer grado, reparados en un pequeño número de mujeres. Cuando se realizó la reparación perineal, hubo más complicaciones en el proceso de cicatrización, independientemente del grado del desgarro. La cantidad de métodos naturales en el cuidado perineal después del parto fue superior al uso de medicamentos.

DESCRIPTORES: Parto. Períneo. Laceraciones. Centros de asistencia al embarazo y al parto. Enfermería obstétrica.

INTRODUCTION

It is estimated that more than 85% of women had some kind of perineal trauma during childbirth, caused by episiotomy or by the spontaneous rupture (tear or laceration) of tissues during the baby's passage through out the vagina.¹

Spontaneous perineal tears are classified in degrees according to the tissue layers affected. First-degree tears only reach the skin and mucosa, second-degree tears also reach the musculature, third-degree tears affected the anal sphincter and fourth-degree tears harm the rectal mucosa.²

Complications associated with perineal trauma may harm women's health both in the immediate and long term post-partum period, affecting their mobility, vesical and intestinal elimination, general care towards the newborn and other daily activities.³

When the trauma is minor, suture and post-partum perineal care are performed properly, the chance of complications are lower.¹⁻⁴ Episiotomy, on the other hand, may cause more severe pelvic floor damages, just as third- and fourth-degree tears.⁴

Some maternal and newborn characteristics may be related to higher occurrences and degree of spontaneous perineal tears.⁵ The place of birth, professionals who provide care and their practices also affect the degree of perineal tears and perineum care after childbirth.⁶

Therefore, Birth Centres (BC) were built as a strategy to change the hospital environment where childbirth takes place, reducing unnecessary interventions. They are classified as alongside when inside hospital's facilities, or freestanding (FBC) when in the surroundings of the reference hospital.⁷

Professionals working in BC adopted practices to keep the physiology of labour and childbirth, respecting woman's autonomy. The discerned use of interventions contributes to favourable outcomes in childbirth and to reduce severe perineal traumas.⁷⁻⁸

Thus, this study aimed to analyse perineal outcomes and postpartum perineal care in an FBC.

METHOD

A cross-sectional retrospective study, conducted at Casa Angela FBC, in São Paulo, SP, Brazil. Casa Angela provides antenatal, childbirth and post-partum care and, since 2016, has a contract signed with São Paulo City Hall to receive financial resources from the National Unified Health System (*Sistema Único de Saúde – SUS*).

The study population was made of all women admitted for birth at Casa Angela. A total of 467 women were admitted between January 2016 and June 2017 and characterized, and 415 of them took part of the study sample.

Data collection happened between July and December 2017 and was performed through the analysis of the institution women's records and childbirth, maternal and neonatal transfers' book records. The data collection instrument contained items related to maternal, neonatal and labour/childbirth care characteristics, as well as data concerning post-partum period during women's stay and after discharge.

For "occurrence" and "spontaneous perineal tear degree" outcomes, the following variables were considered as exposure: maternal age, skin colour, previous vaginal childbirths, oxytocin administration, warm compress during the second stage of labour, position during childbirth, duration of the second stage of labour, water birth, shoulder dystocia, newborn weight and newborn cephalic perimeter. For "perineal suture" outcome, the variable considered exposure was spontaneous perineal tear degree. For "perineal complications" outcome, suture and spontaneous perineal tear degree were considered exposure.

For continuous variables, data were analysed using the mean value and standard deviation (SD). For categorical variables, data were analysed by means of absolute and relative frequencies. In the bivariate analysis, for the association between exposure variables and outcomes were used

chi-square, Fisher's exact, Kruskal-Wallis tests and variance analysis (ANOVA). For the analysis of the association between postpartum perineal complications, perineal suture and tear degree, it was used chi-square test. *Odds ratio* (OR) and its respective 95% confidence interval (95%CI) were also calculated. In the bivariate analysis, variables showing a p-value<0.20 were inserted in a binary (perineal integrity and spontaneous tears) or ordinal (tear degree) logistic regression model. The type I error adopted was 5%.

RESULTS

Between January 2016 and June 2017, 467 women were admitted in labour at Casa Angela. Among these, 52 (11.1%) were transferred intra-partum to a hospital. Therefore, the study's final sample was 415 women. All of them had uncomplicated pregnancies, no morbidity or related risk factor and were admitted in labour between 37 and 42 gestation age.

The women's mean age was 27.8 years old, (SD=5.3) with a predominance of the age group 20 to 30 years old (n=243; 58.6%); 75.6% (n=302) were born in São Paulo state, 62.9% (n=249) declared themselves as white-skinned and 21.5% (n=85) as brown-skinned; 49.6% (n=205) had completed higher degree and 44.6% (n=184) completed high school; 65.5% (n=269) had paid work and 72.0% (n=296) had a stable partner.

Most of them were having their first pregnancy (n=268; 64.6%), with a mean of 1.5 (SD=0.7) pregnancies per woman; the mean of previous vaginal births was 1.2 (SD=0.6) and only 2.6% (n=3) had a previous caesarean section.

The mean value of cervical dilation on admission was 5.6cm (SD=2.4). Interventions such as amniotomy and oxytocin administration were used exceptionally, in 6.5% (n=27) and 6.3% (n=26) women, respectively. The woman's choice companion was present in 99.5% (n=412) of childbirths, with a mean of 1.6 (SD=0.6) companion per woman. The second stage of labour, most of the times, lasted up to 1 hour (n=319; 76.9%). As for the position during childbirth, almost one third of women gave birth in the semi-seated position (n=127; 30.8%), followed by squatting position (n=82; 19.9%), seated position (n=75; 18.2%), and four support position (n=70; 16.9%). Water birth happened in 32.4% (n=134) of the births; however, the births happened in many places in the birthing room (delivery bed, exercise mat or bed sheet on the floor, childbirth stool, shower).

Shoulder dystocia happened only once (0.2%); in 3.4% (n=14) of the births, newborn Apgar score was below 7 in the first minute, there was no Apgar score below 7 in the fifth minute. Newborn weights ranged from 2,310g to 4,180g, with a mean of 3,240.1g (SD=372.0) and newborn cephalic perimeter ranged from 31cm to 38cm, with a mean of 34.3cm (SD=1.3).

As for the perineal outcomes, the perineum was kept intact in 11.8% (n=49) of women. The prevalence of women with spontaneous first-degree tears was 61.9% (n=257), followed by 26.3% (n=109) with spontaneous second-degree tears. In cases of multiple traumas (tear or laceration), only the higher trauma was considered. There were no cases of spontaneous third- and fourth-degree tears, as well as episiotomy. Given that, there were women with multiple traumas; 448 traumas were recorded and distributed according to their perineum location: 37.5% (n=168) were located at labia minora, 36.2% (n=162) at perineal body or posterior vaginal wall, 16.7% (n=75) at vestibule and 9.6% (n=43) at anterior vaginal wall.

The bivariate analysis showed that perineal integrity was more frequent when the duration of the second period of labour was up to 1 hour, and spontaneous second-degree tear was more frequent when this period exceeded 2 hours (p<0.001). In its turn, the following categorical variables showed no statistically significant association with perineal outcome (integrity and spontaneous first- or second-degree tears): skin colour (p=0.222), oxytocin administration (p=0.955), warm compress during the second stage of labour (p=0.691), maternal position during childbirth (p=0.052) and water birth (0.196) (Table 1).

Table 1 – Distribution of women according to perineal outcome and categorical variables. São Paulo, SP, Brazil, 2016-2017

Variable	Intact	Spontaneous 1 st degree tear	Spontaneous 2 nd degree tear	p-value
	n (%)	n (%)	n (%)	
Skin colour (n=396)				
White	34 (13.7)	149 (59.8)	66 (26.5)	0.222 [†]
Brown-skinned	10 (11.8)	57 (67.0)	18 (21.2)	
Black	1 (2.3)	26 (60.5)	16 (37.2)	
Asian or Indigenous	1 (5.3)	11 (57.9)	7 (36.8)	
Oxytocin administration (n=415)				
Yes	3 (11.5)	17 (65.4)	6 (23.1)	0.955 [†]
No	46 (11.8)	240 (61.7)	103 (26.5)	
Warm compress during the 2 nd stage of labour (n=415)				
Yes	1 (5.3)	12 (63.1)	6 (31.6)	0.691 [†]
No	48 (12.1)	245 (61.9)	103 (26.0)	
Duration of the 2 nd stage of labour (hours) (n=415)				
≤ 1	48 (15.0)	197 (61.8)	74 (23.2)	<0.001 [†]
> 1 to ≤ 2	1 (1.4)	47 (65.3)	24 (33.3)	
> 2	–	13 (54.2)	11 (45.8)	
Maternal position during childbirth (n=412)				
Vertical*	7 (6.9)	55 (54.5)	39 (38.6)	0.052 [‡]
Semi-seated	15 (11.8)	84 (66.2)	28 (22.0)	
Seated	9 (12.0)	46 (61.3)	20 (26.7)	
Four supports	11 (15.7)	42 (60.0)	17 (24.3)	
Lateral	7 (17.9)	27 (69.3)	5 (12.8)	
Water birth (n=415)				
Yes	21 (15.7)	82 (61.2)	31 (23.1)	0.196 [†]
No	28 (10.0)	175 (62.2)	78 (27.8)	

*Includes squatting, standing and kneeling positions; †Fischer's exact test; ‡Chi-square test.

Continuous variables that did not show association were the following: maternal age ($p=0.190$), number of previous vaginal childbirths ($p=0.173$), newborn weight ($p=0.591$) and newborn cephalic perimeter ($p=0.439$) (Table 2).

All variables with p -value <0.20 in the bivariate analysis were included in the multiple analysis of the perineal outcome “occurrence or not of perineal tear” and “perineal tear degree”, as referred in the Method section.

Concerning maternal age, the chance of spontaneous perineal tear increases by 4% each year. As for the duration of second stage of labour, when it was over 2 hours, women had 2.8 times more chance to have perineal trauma. In both situations, not only the chance of having a tear or laceration increased, but also the chance of them being a spontaneous second-degree tear (Table 3).

In its turn, previous vaginal childbirth is a protective factor for perineal tear, since each previous vaginal childbirth decreases in 56% the chance of perineal tear. As for the position during the second stage of labour, women that gave birth in non-vertical positions had less chance to have perineal trauma than those who gave birth in squatting, standing or kneeling positions. In lateral position, the

chance of having a trauma was 67% lower, in four support position, 56% lower and in seated and semi-seated positions, 51% lower. In all of the above situations, not only the chance of tear or lacerations decreased, but also the chance of them being of spontaneous second-degree tear (Table 3).

Table 2 - Distribution of women according to perineal outcome and continuous variables. São Paulo, SP, Brazil, 2016-2017

Variable	Intact		1 st degree tear		2 nd degree tear		p-value
	n	mean (SD)	n	mean (SD)	n	mean (SD)	
Maternal age (years old)	49	27.5 (5.6)	257	27.6 (5.3)	109	28.7 (5.2)	0.190*
Number of previous vaginal childbirths	30	1.3 (0.7)	69	1.2 (0.6)	16	1.0 (0.0)	0.173†
Newborn weight (g)	49	3204.0 (399.7)	257	3235.7 (373.4)	109	3266.7 (357.3)	0.591*
Newborn cephalic perimeter (cm)	49	34.1 (1.2)	257	34.3 (1.3)	109	34.4 (1.1)	0.439*

*ANOVA; †Kruskal-Wallis test.

Table 3 - Initial and final model of the multivariate analysis of the relation between spontaneous tear occurrence and maternal and birth care variables. São Paulo, SP, Brazil, 2016-2017

Variable	Initial model		Final model		p-value*
	p-value*	OR	95% CI		
Maternal age (years old)	0.190	1.04	1.00-1.08		0.047
Number of previous vaginal childbirths	0.173	0.44	0.31-0.63		<0.001
Duration of the 2 nd stage of labour	<0.001				0.039
≤ 1 hour		1	–		
> 1 ≤ 2 hours		1.58	0.90-2.76		
> 2 hours		2.77	1.16-6.72		
Maternal position during childbirth	0.052				0.019
Vertical		1	–		
Seated		0.49	0.26-0.91		
Semi-seated		0.49	0.28-0.85		
Four supports		0.44	0.23-0.83		
Lateral		0.33	0.15-0.73		
Water birth	0.196				
Yes		1.14	0.71-1.85		
No		1	–		

*Wald's test.

Regarding post-partum perineal suture, most of spontaneous first-degree perineal tear were not sutured (n=216; 84.0%). The opposite happened with spontaneous second-degree tears, most of which were sutured (n=77; 70.6%) (p<0.001).

When sutured, more than half of spontaneous first-degree tears resulted in complications (n=24; 58.5%), as well as second-degree tears (n=54; 70.1%), increasing in 2.5 times the chance of complications during wound healing process when perineal suture was performed (OR=2.5; 95%CI 1.5-4.3; p<0.001).

Regarding complications, pain and edema were the most frequent ones, referred by 53.6% (n=144) and 29.4% (n=79) of women, respectively. The chance of feeling pain was higher when the tear was sutured, apart from the degree (OR=2.1; 95%CI 1.1-3.9; p=0.029). The chance of perineal edema was also higher in cases of perineal suture for both first- and second-degree (OR=2.5; 95%CI 1.4-4.2; p=0.002).

Natural methods of perineum care applied in post-partum were used in 51.8% (n=215) of women. Even if women had used one or more methods (n=259), local application of icepack was prevalent (n=139; 53.8%), followed by calendula compress with or without icepack (n=95; 36.6%). For medications after childbirth, scopolamine, acetaminophen or sodium diclofenac were taken only by 24.1% (n=100) of women.

DISCUSSION

In this study, maternal age was associated to perineal trauma; each year increased the chance of perineal tear. As the literature shows, higher maternal age is associated with spontaneous second-degree tears.⁹⁻¹²

Many studies showed multiparity as a protective factor against perineal tears and a higher incidence of intact perineum.¹³⁻¹⁵ Women in this study were mainly in their first pregnancy; however, after the multiple analysis, the chance of spontaneous perineal tear decreased for each previous vaginal childbirth.

A prolonged second stage of labour is clearly stated in the literature as an associated factor to the occurrence of perineal trauma. It is described that the longer is the second stage of labour, the higher is the chance of severe spontaneous degree tear, involving the anal sphincter.¹³⁻¹⁵

In this study, the association between the duration of the second stage of labour and perineal outcomes also agrees with the literature. The rate of intact perineum decreased when the duration of the second stage of labour increased. Such is also the case with spontaneous first- and second-degree tears: the longer is the duration of the second stage of labour, the higher is the frequency of spontaneous perineal tears, and higher is the degree.

It is worth mentioning that in the place of this study, women have freedom to adopt any position during childbirth; therefore, there was a lot of positions and places chosen by the women for having the birth: squatting, seated, four supports, lateral, standing and kneeling. Only one woman gave birth in supine position.

Supine position may be associated with abnormalities in fetal heart beats, higher rates of episiotomy and lower prevalence of spontaneous vaginal childbirth. Vertical positions, in its turn, may reduce episiotomy rates, duration of the second stage of labour and occurrence of instrumental birth. However, when woman adopts vertical positions during the second stage of labour, it may increase the occurrence of spontaneous second-degree tears, but there is no proven association with the occurrence of third- and forth- degrees tears.¹⁶⁻¹⁸

Just as demonstrated in the literature, in this study, vertical positions increased the chance of spontaneous second-degree perineal tear and reduced the rate of intact perineum.

Regarding lateral position, it can increase perineal integrity rates, reduce the occurrence of episiotomy, labia lacerations and local edema; besides, when compared to other positions, it contributes to the reduction of spontaneous second-degree tears.¹⁶ The same outcome was shown in a controlled randomized trial regarding four support position.¹⁸

Likewise, in this study, there was higher rate of intact perineum when women adopted lateral or four support positions during childbirth. Other than these, seated and semi-seated positions were protective against perineal tears when compared to vertical positions.

The model of maternity care, mainly care during childbirth, may produce impact on perineal outcomes. The continuity of care provided by midwives and nurse midwives in an FBC favours a considerable reduction in episiotomy rates, since it contributes to a physiological childbirth, with discerned use of interventions and better maternal and neonatal outcomes.¹⁹

As showed in the literature, in FBC setting there are better perineal outcomes, with higher rates of intact perineum or spontaneous first-degree tears and smaller proportions of episiotomy.^{7,20} In this study, tears were first-degree mainly and, more than half was not sutured.

In spontaneous first- and second-degree tears, the recommendation from the Brazilian Ministry of Health and National Institute for Health and Care Excellence (NICE), UK, is that all spontaneous second-degree tears and those first-degree with non-opposed edges may be sutured for the sake of better wound healing.^{2,21}

It is possible to assume, considering the childbirth model of care adopted in the place of this study, that professionals use interventions wisely. The perineal suture performance is an example, since that 67.7% of the tears were not sutured.

In the literature there are indications that leaving the skin with no threads may decrease perineal pain and dyspareunia, but there are no long-term studies concerning if this conduct could cause damages regarding healing in the following months or years. Apart from that, there is no high-quality evidence involving the non-suturing of first- and second-degree tears to confirm the safety of this practice.¹

In our study, performing or not performing suture was also analysed relating to the most common perineal complications: pain, edema, ecchymosis and others described in women's records. In general, there was a higher proportion of complications in sutured tears: 58.2% of sutured first-degree tears and 70.1% of sutured second-degree tears.

As well as the literature shows, women who have their perineum sutured, have higher pain sensation.¹⁻³ In this study, women who had perineal suture, had higher frequency of pain, both in first- and second-degree tears. Edema was also higher in these women.

After childbirth, it is possible to reduce discomforts caused by perineal trauma with pharmacological and non-pharmacological methods. Pharmacological methods like anti-inflammatory medicines and painkillers are prescribed by health professionals for pain relief, but these medications has side effects, such as gastrointestinal, bleeding and allergic reactions.²² However, even though these side effects may occur, medicines are predominant for pain relief.²³

On the other hand, the medicine overuse can be managed with the use of non-pharmacological methods for pain relief.³ In this study, natural perineal care methods were used in a little more than half of women. Local icepack compress is the most used practice and demonstrates effectiveness to relieve perineal pain.²⁴ Other methods used, such as calendula tincture and chamomile tea compress, appear in the literature as capable of greatly increasing the speed of perineal wounds' healing.²⁵

The results of this study contributes to the knowledge about maternal and childbirth care factors that may influence the occurrence of perineal tears, apart from contribute to describe post-partum perineal care. It also brings subsidies to improve perineal practices of health care professionals to women during childbirth both in BC and hospital settings; which may result in better perineal outcomes.

Given that the literature is not conclusive about the advantages and disadvantages of suturing first- and second-degree tears, in relation to healing process and perineal complications, more research on safety in not performing sutures is necessary, given its possible benefits.

The limitations of this study are especially about the data collected from women's records and cross-sectional design. The information obtained was recorded by Casa Angela's professionals, depending exclusively on its quality and level of detail.

Apart from that, the analysis of the perineal care methods, use of medication and perineal complications in post-partum was global (without discrimination of the moment of its occurrence), that is, a longitudinal analysis of these variables was not performed.

CONCLUSION

Regarding perineal outcomes, there was prevalence of spontaneous first-degree tears which happened with more than half of women. The ones of second-degree happened with more than one quarter of women. No woman had episiotomy.

The variables related to the occurrence and to a higher spontaneous perineal tear degree were: increased maternal age, lower number of previous vaginal childbirths, duration of the second stage of labour over 2 hours and vertical positions during childbirth. Lateral, four support, seated and semi-seated positions are protectors against the occurrence of spontaneous perineal tear.

The perineal suture of first-degree tears was performed in a low number of women, while not all of those with second-degree tears were sutured. In its turn, perineal complications (pain and edema) in post-partum period were more frequent when suture was performed, regardless the tear degree.

Natural perineal care methods after childbirth were used in a little more than half of women; the prevalent ones were icepack compress and calendula tincture, with or without ice.

REFERENCES

1. Frohlich J, Kettle C. Perineal care. *BMJ Clin Evid* [Internet]. 2015 Mar [cited 2018 Apr 25]; 3:1401. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/pmc4356152/>
2. National Institute for Health and Care Excellence. Intrapartum care for healthy women and babies; London(UK): NICE; 2014. Available from: <https://www.nice.org.uk/guidance/cg190>
3. Leeman L, Rogers R, Borders N, Teaf D, Qualls C. The effect of perineal lacerations on pelvic floor function and anatomy at 6 months postpartum in a prospective cohort of nulliparous women. *Birth* [Internet]. 2016 Dec [cited 2018 Apr 25]; 43(4):293-302. Available from: <https://doi.org/10.1111/birt.12258>
4. Jiang H, Qian X, Carroli G, Garner P. Selective versus routine use of episiotomy for vaginal birth. *Cochrane Database Syst Rev*. 2017 Feb [cited 2018 Apr 25]; 2:CD000081. Available from: <https://dx.doi.org/10.1002/14651858.CD000081.pub3>
5. Smith LA, Price N, Simonite V, Burns EE. Incidence of and risk factors for perineal trauma: a prospective observational study. *BMC Pregnancy Childbirth* [Internet]. 2013 Mar [cited 2018 Apr 25]; 13:59. Available from: <https://dx.doi.org/10.1186/1471-2393-13-59>
6. Leite JS. Caracterização das lacerações perineais espontâneas no parto normal [dissertação]. São Paulo (BR): Universidade de São Paulo, Programa de Pós-Graduação em Enfermagem; 2012.
7. Ministério da Saúde (BR). Portaria n 11 de 07 janeiro de 2015: Redefine as diretrizes para implantação e habilitação de Centro de Parto Normal (CPN), no âmbito do Sistema Único de Saúde (SUS), para o atendimento à mulher e ao recém-nascido no momento do parto e do nascimento, em conformidade com o Componente parto e nascimento da Rede Cegonha, e dispõe sobre os respectivos incentivos financeiros de investimento, custeio e custeio mensal. Brasília (BR): MS; 2015.
8. Alliman J, Phillippi JC. Maternal outcomes in birth centers: an integrative review of the literature. *J Midwifery Womens Health* [Internet]. 2016 Jan-Feb [cited 2018 Apr 25]; 61(1):21-51. Available from: <https://dx.doi.org/10.1111/jmwh.12356>

9. Omih EE, Lindow S. Impact of maternal age on delivery outcomes following spontaneous labour at term. *J Perinat Med* [Internet]. 2016 Oct [cited 2018 Apr 25]; 44(7):773-7. Available from: <https://dx.doi.org/10.1515/jpm-2015-0128>
10. Laganà AS, Terzic M, Dotlic J, Sturlese E, Palmara V, Retto G, et al. The role of episiotomy in prevention of genital lacerations during vaginal deliveries-results from two European centers. *Ginekol Pol* [Internet]. 2015 Mar [cited 2018 Apr 25]; 86(3):168-75. Available from: https://journals.viamedica.pl/ginekologia_polska/article/view/45752
11. Wu LC, Malhotra R, Allen Jr JC, Lie D, Tan TC, Østbye T. Risk factors and midwife-reported reasons for episiotomy in women undergoing normal vaginal delivery. *Arch Gynecol Obstet* [Internet]. 2013 Dec [cited 2018 Apr 25]; 288(6):1249-56. Available from: <https://dx.doi.org/10.1007/s00404-013-2897-6>
12. Hauck L, Lewis L, Nathan E, White C, Doherty D. Risk factors for severe perineal trauma during vaginal childbirth: a Western Australian retrospective cohort study. *Women Birth* [Internet]. 2015 Mar [cited 2018 Apr 25]; 28(1):16-20. Available from: <https://dx.doi.org/10.1016/j.wombi.2014.10.007>
13. Simic M, Cnattingius S, Petersson G, Sandström A, Stephansson O. Duration of second stage of labor and instrumental delivery as risk factors for severe perineal lacerations: population-based study. *BMC Pregnancy Childbirth* [Internet]. 2017 Feb [cited 2018 Apr 25]; 17(1):72. Available from: <https://dx.doi.org/10.1186/s12884-017-1251-6>
14. Smith LA, Price N, Simonite V, Burns EE. Incidence of and risk factors for perineal trauma: a prospective observational study. *BMC Pregnancy Childbirth* [Internet]. 2013 Mar [cited 2018 Apr 25]; 13:59. Available from: <https://dx.doi.org/10.1186/1471-2393-13-59>
15. Gupta JK, Sood A, Hofmeyr GJ, Vogel JP. Position in the second stage of labour for women without epidural anaesthesia. *Cochrane Database Syst Rev*. 2017 May [cited 2018 Apr 25]; 5:CD002006. Available from: <https://dx.doi.org/10.1002/14651858.CD002006.pub4>
16. Serati M, Di Dedda MC, Bogani G, Sorice P, Cromi A, Uccella S, et al. Position in the second stage of labour and de novo onset of post-partum urinary incontinence. *Int Urogynecol J* [Internet]. 2016 Feb [cited 2018 Apr 25]; 27(2):281-6. Available from: <https://dx.doi.org/10.1007/s00192-015-2829-z>
17. Kopas ML. A review of evidence-based practices for management of the second stage of labor. *J Midwifery Womens Health* [Internet]. 2014 May-June [cited 2018 Apr 25]; 59(3):264-76. Available from: <https://dx.doi.org/10.1111/jmwh.12199>
18. Zhang H, Huang S, Guo X, Zhao N, Lu Y, Chen M, et al. A randomised controlled trial in comparing maternal and neonatal outcomes between hands-and-knees delivery position and supine position in China. *Midwifery* [Internet]. 2017 Jul [cited 2018 Apr 25]; 50:117-24. Available from: <https://dx.doi.org/10.1016/j.midw.2017.03.022>
19. Sandall J, Soltani H, Gates S, Shennan A, Devane D. Midwife-led continuity models versus other models of care for childbearing women. *Cochrane Database Syst Rev*. 2016 Apr [cited 2018 Apr 25]; 4:CD004667. Available from: <https://dx.doi.org/10.1002/14651858.CD004667.pub5>
20. Pereira ALF, Lima TRL, Schroeter MS, Gouveia MSF, Nascimento SD. Resultados maternos e neonatais da assistência em casa de parto. *Esc Anna Nery* [Internet]. 2013 Jan-Mar [cited 2018 Apr 25]; 17(1):17-23. Available from: <https://dx.doi.org/10.1590/S1414-81452013000100003>
21. Ministério da Saúde (BR). Diretriz Nacional de assistência ao Parto Normal: Relatório de Recomendações. Brasília (BR): Secretaria de Ciência, Tecnologia e Insumos Estratégicos; Ministério da Saúde; 2016.
22. Eshkevari L, Trout KK, Damore J. Management of postpartum pain. *J Midwifery Womens Health* [Internet]. 2013 Nov-Dec [cited 2018 Apr 25]; 58(6):622-31. Available from: <https://dx.doi.org/10.1111/jmwh.12129>

23. Peleckis MV, Francisco AA, Oliveira SMJV. Perineal pain relief after postpartum. *Texto Contexto Enferm* [Internet]. 2017 [cited 2018 Apr 25]; 26(2):e05880015. Available from: <https://dx.doi.org/10.1590/0104-07072017005880015>
24. Paiva CSB, Oliveira SMJV, Francisco AA, Silva RL, Mendes EPB, Steen M. Length of perineal pain relief after ice pack application: a quasi-experimental study. *Womens Birth* [Internet]. 2016 Apr [cited 2018 Apr 25]; 29(2):117-22. Available from: <https://dx.doi.org/10.1016/j.wombi.2015.09.002>
25. Eghdampour F, Jahdie F, Kheyrikhah M, Taghizadeh M, Naghizadeh S, Hagani H. The impact of aloe vera and calendula on perineal healing after episiotomy in primiparous women: a randomized clinical trial. *J Caring Sci* [Internet]. 2013 Nov [cited 2018 Apr 25]; 2(4):279-86. Available from: <https://dx.doi.org/10.5681/jcs.2013.033>

NOTES

CONTRIBUTION OF AUTHORSHIP

Study Design: Lopes GA, Leister N, Riesco MLG.

Data analysis and interpretation: Lopes GA, Leister N, Riesco MLG.

Writing and/or critical review of content: Lopes GA, Leister N, Riesco MLG.

Review and final approval of the final version: Lopes GA, Leister N, Riesco MLG.

ETHICS COMMITTEE IN RESEARCH

Approved by the Ethics Committee in Research with Human Beings of School of Nursing of the *Universidade* of São Paulo, under No. 2.026.634; Certificate of Presentation and Ethical Appreciation No. 66506117.4.0000.5392.

CONFLICT OF INTERESTS

There is no conflict of interest.

HISTORICAL

Received: May 14, 2018.

Approved: December 12, 2018.

CORRESPONDENCE AUTHOR

Gisele Almeida Lopes

gi-al@hotmail.com