

Shifting the paradigm to an obstetric humanized care: the disparities at a tertiary care hospital in the midwest of Brazil

J.B. Verano¹, C.D. Rodrigues², M.V.S. Ferreira², S.R. de Oliveira¹

¹Department of Gynecology and Obstetrics, Ceilândia Regional Hospital, Brasília; ²Catholic University of Brasília, Brasília (Brazil)

Summary

Objectives: This study intended to evaluate the overuse of episiotomy as a routine practice at a public referral regional hospital and the changes promoted by the widespread concept of obstetric violence. **Materials and Methods:** This study was an analytic cross-sectional study with retrospective gathering of data through medical record analyses from women that gave birth from July 2012 and July 2015 at the Birth Center of Ceilândia Regional Hospital. **Results:** From a sample of 519 births, 47.4% were performed by resident physicians in training. The overall episiotomy rate considering both periods was 41.2% with a significant decrease on the rate between the periods ($p < 0.01$), with a 53.2% rate in 2012 vs. a 32.3% in 2015. There was no difference in the episiotomy rates amongst obstetricians ($p = 0.263$). However, in 2012 a 60.2% rate against a 24.6% rate in 2015 was observed among resident physicians ($p < 0.001$). There was no statistically significant difference among third- and fourth-degree tear rates in the two periods. Perineal integrity was observed in 26.78% of the patients. **Conclusion:** This study indicates that the referred center is currently facing a paradigm shift motivated by young physicians, with a drop in the episiotomy rates, but still with little reflex on the fully trained obstetricians' practices.

Key words: Obstetric labor; Natural birth; Episiotomy; Humanization of assistance.

Introduction

Episiotomy is defined as the surgical amplification of the vaginal introitus during labor and birth in order to broaden the birth canal. Historically, the first report of an episiotomy was made in 1741, when Sir Fielding Ould described it as a method to be used exceptionally to prevent severe tears, reserved as an emergency solution. It is only in the beginning of the XX century that the episiotomy began to be performed routinely and became a widespread practice, especially among obstetricians in comparison to other healthcare professionals involved in the birth process [1].

Some arguments for performing the procedure are that it may prevent tears and consequent associated maternal morbidity, abbreviate labor and birth, decrease mother suffering and neonatal morbidity and mortality, preserve the pelvic floor and the vulvar introitus, with the possibility of an easier perineal anatomy restoration through a well-executed episiorrhaphy. However, the adoption of this procedure as a routine practice is supported more by beliefs and preconceived ideas than by scientific evidence, added to the need of control and medical power during labor and birth [2]. The most recent recommendation emitted by the Ministry of Health of Brazil does not set an ideal rate for such practice [3].

This model that has been adopted in Brazil since a couple of years, before the trend of women empowerment and the concept of obstetric violence. Nowadays, it is discussed how episiotomy could be used in exceptional cases and not as a routine procedure that could potentially lead to increased time of healing (compared to a tear), increased chance of vulvar hematoma and edema, perineal pain, and dyspareunia, besides the negative psychological factor [4-6]. The Prenatal and Birth Humanization Program inaugurated by the Ministry of Health in 2000 advocates that humanization comprehends at least two main aspects: the duty to take care of patients and their families, and the adoption of beneficial measures to monitor labor and birth, avoiding unnecessary interventionist practices, even if they are traditionally performed [7]. Therefore, humanized birth concerns especially during birth moment, should be included with also a woman-centered care and assistance that rescues the women's position in the birth process and respects their dignity and autonomy [8]. With the national release of the Expecting Mother Booklet in the first semester of 2015, the maternal population began to receive information regarding prenatal care, labor, differences between cesarean sections and vaginal delivery, expecting mothers' rights and obstetric violence, amongst others. It was expected that a

more informed patient would be able to question and oppose to certain procedures, such as an episiotomy, regarded as obstetric violence [8, 9].

This shift in paradigm led this study to evaluate the incidence of episiotomy at Ceilândia Regional Hospital in two distinct periods, July 2012 and July 2015, and to analyze whether the changes observed would reflect in the perineal tear rates and severity.

Materials and Methods

This study consisted on an analytic cross-sectional study with retrospective gathering of data through medical record analysis from the women that gave birth in the Birth Center of a tertiary care hospital, between July 1st to July 31st of 2012 and from July 1st to July 31st of 2015. The primary data source was the Birth Center procedures register book where the patients included in the analysis were identified, with subsequent analysis of the patients' records. Guaranteeing the anonymity and confidentiality of the patients and professionals, the following data was extracted from the records for analysis: expected date of birth, patient's age, gestational age, parity, assistant doctor (obstetrician or resident physician), episiotomy, occurrence of tears, and the tear degree. The obstetric perineal tears were graded according to the lesion severity degree: first-degree, when there is skin and mucosa discontinuity, second-degree, when there is musculature trauma, and third- and fourth-degree, when the anal sphincter and rectal mucosa are injured, respectively.

All births registered in the book were selected for an initial analysis; from these, the vaginal births were selected for the study. The deliveries whose records were not found in the electronic records or had incomplete data, as well as those performed by the obstetric nurses were excluded from the study. The present study was approved by the Ethics Committee of Fundação de Ensino e Pesquisa em Ciências da Saúde (FEPECS) of Distrito Federal State Health Secretary (SES-DF), under guarantee of professional and patient's secrecy.

All data was submitted to descriptive and analytical analysis according to appropriate methods. The categorical variables were described as absolute and relative frequencies (percentage). The frequencies among the groups were compared using the χ^2 Test or Fisher Exact Test according to the distribution on the tables and appropriate criteria. The continuous variables were described as averages and 95% confidence interval for variables with parametric distribution, and as percentiles (15, 50, 85), compatibles with ± 1 standard deviation, for nonparametric variables. All continuous variables were submitted to distribution tests (Kolmogorov-Smirnov and Shapiro-Wilks) to evaluate whether they were parametric. The averages and medians between the groups were compared using the Student's *t*-test for parametric variables and Mann-Whitney U Test for non-parametric variables. All the analysis was made for a 0.05 significance level by two-tailed tests.

The risk factors for submission to the episiotomy were determined through a multivariate linear regression, included in the models the selected variables for univariate analysis based on the *p* value, with retention of the variables below 0.1, followed by a forward entry of the variables in the model. The differences between the groups determined per period were submitted to binary multivariate logistic regression, using the same rules of the model described above. All the analysis was made using the SPSS Statistics, Version 20.0.

Results

Considering the both periods of evaluation (July, 2012 and July, 2015), 870 births took place at the Birth Center and, among them, 273 were cesarean sections (31.3%). From 597 vaginal births, 78 were excluded in the present study: 26 due to missing core data, 21 not found in the electronic records, and 31 for being assisted by the nurse midwives. The final sample consisted of 519 births, from which 222 took place in July of 2012 and 297 in the same period of 2015.

Tables 1 and 2 show, respectively, the women's gestational profile and the births evaluated in each period according to the variables. There was a significant decrease in the number of episiotomies performed ($p < 0.001$), with a 53.2% rate in 2012 vs. 32.3% rate in 2015. Table 3 further describes the procedure according to the performer in both periods. When analyzing the births not submitted to episiotomy (Table 4), it was observed that there was no significant difference between the tear rate in 2012 and 2015 ($p = 0.546$). Also, there were no statistically significant differences between third- and fourth-degree tear rates in the two periods ($p = 0.293$). As for the characteristics of the patients submitted to episiotomy (Table 5), regardless of the period, the authors observed that the average age was 22.72 years and that they were mostly primipara and nullipara. The average age of the patients not having an episiotomy was 26.92 years and they showed a pattern of three previous gestations and one vaginal delivery. The age, number of gestations, parity, and vaginal births were included for the analysis of multivariate regression based on pre-established criteria. However, only the previous number of vaginal births was presented as an independent protection factor for an episiotomy (OR 0.42; IC 95% 0.29–0.60; $p < 0.001$), with the other variables stopping at the exclusion stage.

Discussion

Considered by some authors as a female genital mutilation, the episiotomy procedure must comply with the World Health Organization recommendation of an ideal rate around 10% [10]. By itself, this procedure is considered a second-degree tear, and when not performed, can cause no tear or even previous first- or second-degree tears with a better prognosis. Besides increasing the chances of birth pain, infection, swelling, dehiscence, and bruising, episiotomy is associated with increased blood loss leading to high hospital costs and supplies [5].

An expressive reduction on the episiotomy overall rate was observed in the present data, mainly among resident doctors, which points to an important attitude change, less interventionist, and more oriented to the present patterns against obstetric violence. However, among obstetricians there was no significant reduction. Such facts lead us to

Table 1. — Characteristics of the mothers evaluated per period.

Variable	Total (n = 519)	July 2012 (n = 222)	July 2015 (n = 297)	Sig. (p)
Age‡	25.19 (19.08 – 34.16)	25.19 (19.17 – 34.08)	25.17 (19.07 – 34.36)	0.866
Gestational age‡	39w+5d (38w – 41w)	39w+5d (38w – 41w+1d)	39w+6d (38w+1d – 41w)	0.519
Gestations‡	2 (1 – 4)	2 (1 – 4)	2 (1 – 4)	0.349
Previous vaginal births‡	1 (0 - 3)	1 (0 - 3)	1 (0 - 3)	0.308
Previous total parity ‡	1 (0 - 3)	1 (0 - 3)	1 (0 - 3)	0.448

* Frequency (%); ‡ Median (P15 – P85).

Table 2. — Descriptive information of births evaluated per period.

Variable	Total (n = 519)	July 2012 (n = 222)	July 2015 (n = 297)	Sig. (p)
Births assisted by resident doctors*	246 (47.4%)	108 (48.6%)	138 (46.5%)	0.657
Episiotomy*	214 (41.2%)	118 (53.2%)	96 (32.3%)	<0.001

* Frequency (%).

Table 3. — Episiotomy rate per period.

Variable		July 2012 (n = 222)	July 2015 (n = 297)	Sig. (p)
Total of births	Episiotomy*	118 (53.2%)	96 (32.3%)	<0.001
Births assisted by obstetricians	Episiotomy*	n = 114 53 (46.5%)	n = 159 62 (39.0%)	0.263
Births assisted by resident physicians	Episiotomy*	n = 108 65 (60.2%)	n = 138 34 (24.6%)	<0.001

* Frequency (%).

Table 4. — Tear index in women not having Episiotomy

Variable	Total (n = 305)	July 2012 (n = 104)	July 2015 (n = 201)	Sig. (p)
Tear*	166 (54.4%)	54 (51.9%)	112 (55.7%)	0.546
Tear degree	Total (n = 166)	July 2012 (n = 54)	July 2015 (n = 112)	Sig. (p)
Third- or fourth-degree tear*	4 (2.4%)	0 (0.0%)	4 (3.5%)	0.349
Missing Data*	73 (43.9%)	21 (38.8%)	52 (46.4%)	0.308

* Frequency (%).

Table 5. — Characteristics of women and newborn who underwent episiotomy.

Variable	Episiotomy (n = 214)	No episiotomy (n = 305)	Sig. (p)
Age‡	22.72 (17.85– 31.44)	26,92 (20,22 – 35,08)	< 0.001
Gestational age‡	39w+5d (38w+1d – 41w)	39w+6d (38w – 41w)	0.420
Gestations‡	1 (1 – 3)	3 (1 – 5)	< 0.001
Previous vaginal births‡	0 (0 - 1)	1 (0 - 3)	< 0.001
Total previous parity ‡	0 (0 - 1)	1 (0 - 4)	< 0.001
Breech presentation*	2 (0.9%)	3 (1.0%)	1.000

* Frequency (%). ‡ Median (P15 – P85).

question what motivates such disparities, and moreover to review the evidence behind the practices in this case of more experienced professionals, who are responsible for providing knowledge and medical education for the residents.

A study published in 2008 based on data collection of vaginal births of a philanthropic hospital in the countryside

of São Paulo state showed an episiotomy rate of 86.9%, closer to the rate found in 2012. Tear following an episiotomy was observed in 3.25% of the cases and a perineum integrity was observed in only 9.76% of the births [11]. Another study published in 2014 showed a non-interventionist strategy (no episiotomy) in 400 births assisted in a maternity school in the northeast region of Brazil. In the

study, the perineum integrity was observed in 56% of the cases, as well as 20% of first degree tear, and 24% of second degree tear. There was no description of third- and fourth-degree tears [12].

Melo *et al.* are currently developing a comparative randomized clinical study about the selective episiotomy and non-performance of the episiotomy. The hypothesis is that the non-performance of episiotomy is better than its selective performance. In order to reach such conclusions, some outcomes that will be evaluated are the range of the second phase of labor, blood loss, tear frequency, frequency of instrumental births, suture requirement, Apgar score, requirement of neonatal resuscitation, and frequency of newborns admission in neonatal intensive care units [13].

Behind the disparities in this institution and among different centers regarding the episiotomy rates, the occurrence of the tear is of utmost importance in all studies cited above, due to the controversy regarding whether episiotomy has a preventive effect. Such an effect is thought to be greater for a certain subgroup of women, especially younger women and nulliparas, as showed by the present analysis the predilection of the healthcare providers to perform an episiotomy in women with fewer previous births. The identified tear rate was 54.4%, with no significant change between July of 2012 (51.9%) and July of 2015 (55.7%), despite the decreasing number of episiotomy procedures. From the total tears, only 2.4% were described as third- and fourth-degree, mainly occurring in 2015. In 26.7% of the births there was preserved perineum integrity. In comparison, several studies showed that third- and fourth-degree tear rate ranges from 0.5 to 11%, according to the population studied. Approximately 85% of the English women having a vaginal birth will show some degree of tear or perineum trauma [14]. Some potentially danger risk factors for third- and fourth-degree tears were primiparity, use of forceps or vacuum extractors, increased fetal body weight, persistence of occiput posterior position variety, and episiotomy [14-16].

A research article published in 2011 evaluated retrospectively the births that took place between 1999 and 2001 in a hospital that assists women from the metropolitan region of São Paulo. The vaginal births were assisted by nurse-midwives and the protocol excludes routine episiotomies. Regarding the perineal outcome, 26.8% perineum integrity, 25.9% episiotomy rate and 45.5% tears were reported; from these, 72.5% were first-degree, 27.3% second-degree and 0.2% third-degree tears [17].

A systematic review made by Cochrane in 2009 and other subsequent studies advocate the selective use of the episiotomy incurs in less posterior perineum trauma, less sutures, and decreased chances of healing complications [6, 18, 19] Moreover possible alternative techniques that can help the perineum to respond more adequately during labor and birth and corroborate to non-intervention would be perineum massage, warm compress, use of hyaluronidases,

and adoption of more vertical positions, abandoning the lithotomy position, which is only comfortable for birth assistant [20]. However, a recent literature review published in June of 2016 lays down some controversial aspects related to the vaginal delivery assistance and criticizes the non-performance of the episiotomy in all patients, as a means of birth humanization, in order to avoid obstetric violence. The medical recommendations for episiotomy included primigravida, prolonged labor and birth, fetal weight above four kilos, instrumental delivery, and shoulder dystocia. As for the technique, it would be better if made before labor and with a broader angle to the detriment of the medians which can be associated to risk of more severe tears [21].

The present data supports the findings regarding the incidence of perineal tears and their severity already cited and furthermore cannot confirm any protective effect of a higher episiotomy rate as a mean to avoid more extensive tears. No strategy (selective *vs.* non-performance) could be evaluated because the criteria behind the performance of the procedure were not clear in this study. However, the humanization practices require a review of the birth assistance care to women giving birth, focusing in individualizing the practices based on the best evidence, despite the ongoing controversies in the literature which strategy would provide less damage.

Conclusions

The authors believe that the drop in the observed episiotomy rates could represent a paradigm shift in the observed hospital, led by the young physicians, but still with little reflex on the fully formed obstetricians. Technical knowledge acquired during the residency program and medical congresses, besides the exchange of experiences with nurse midwives since 2014, might be contributing to this change. Such disparities oppose different concepts regarding the episiotomy use and further instigate the debate regarding its role and true benefits. Despite the decrease in the episiotomy rates, the tear rate remained stable indicating that the episiotomy might have no protective effect on the tear degree, especially regarding its more frequent use in women at their first vaginal birth. These results however do not support its non-performance for all women, since such practice was not evaluated in this study. Further studies are required to evaluate more accurately the causality of such change and patterns, to establish more accurate recommendations for episiotomy that would better suit current times and new practices.

References

- [1] Mattar R, Aquino MMA, Mesquita MRS. A prática da episiotomia no Brasil. *Rev Bras Ginecol Obstet.* 2007;29(1):1-2
- [2] Sabatino H.: *Volume 3: Paradigmas do nascimento. Atenção ao*

- nascimento humanizado baseado em evidências científicas. Manaus: Grafisa, 2014.
- [3] Brasil. Ministério da Saúde. Secretaria de Políticas de Saúde. Área Técnica de Saúde da Mulher. *Parto, Aborto e Puerpério. Assistência Humanizada à Mulher*. Brasília: Ministério da Saúde, 2001.
- [4] Rodríguez M.C.B., Terceros L.A.C.: “Episiotomía: Procedimiento a elección y no de rutina”. *Rev. Cient. Cienc. Med.*, 2014, 17, 53.
- [5] Amorim M.M.R., Katz L.: “O papel da episiotomia na obstetrícia moderna”. *Femina*, 2008, 36, 47.
- [6] Zanetti M.R.D., Petricelli C.D., Alexandre S.M., Torloni M.R., Nakamura M.U., Sass N.: “Episiotomia: revendo conceitos”. *Femina*, 2009, 37, 367.
- [7] Brasil. Ministério da Saúde. Secretaria Executiva. *Programa Humanização do Parto: Humanização no Pré-natal e Nascimento*. Brasília: Ministério da Saúde, 2002.
- [8] Viggiano M.G.C., Moreira S.F., Amaral W.N.: *Assistência ao parto humanizado e neonatal*. Goiânia: Contato Comunicação, 2014
- [9] Brasil. Ministério da Saúde. Caderneta da Gestante [Internet]. 2014 [Cited 11 July 2016] Available at: http://189.28.128.100/dab/docs/portaldab/documentos/caderneta_gestante.pdf
- [10] Wagner M.: “Episiotomy: a form of genital mutilation”. *Lancet*, 1999, 353, 1977.
- [11] Santos J., Bolanho I.C., Mota J.Q.C., Coleoni L., Oliveira M.A.: “Frequência de lesões perineais ocorridas nos partos vaginais em uma instituição hospitalar”. *Esc. Anna Nery*, 2008, 12, 658.
- [12] Amorim M.M., Franca-Neto A.H., Leal N.V., Melo F.O., Maia S.B., Alves J.N.: “Is It Possible to Never Perform Episiotomy During Vaginal Delivery?” *Obstet. Gynecol.*, 2014, 123, 38S.
- [13] Melo I., Katz L., Coutinho I., Amorim M.M.: “Selective episiotomy vs. Implementation of a non episiotomy protocol: a randomized clinical trial”. *Reprod. Health*, 2014, 11, 66.
- [14] Smith L.A., Price N., Simonite V., Burns E.E.: “Incidence of and risk factors for perineal trauma: a prospective observational study”. *BMC Pregnancy Childbirth*, 2013, 13, 1.
- [15] Hamilton E.F., Smith S., Yang L., Warrick P., Ciampi A.: “Third- and fourth-degree perineal lacerations: defining high-risk clinical clusters”. *Am. J. Obstet. Gynecol.*, 2011, 204, 309.e1.
- [16] Groutz A., Hasson J., Wengier A., Gold R., Skornick-Rapaport A., Lessing J.B., et al.: “Third- and fourth-degree perineal tears: prevalence and risk factors in the third millennium”. *Am. J. Obstet. Gynecol.*, 2011, 204, 347.e1.
- [17] Riesco M.L.G., Costa A.S.C., Almeida S.F.S., Basile A.L.O., Oliveira S.M.J.V.: “Episiotomia, laceração e integridade perineal em partos normais: análise de fatores associados”. *Rev. Enferm.*, 2011, 19, 77.
- [18] Carroli G., Belizan J.: “Episiotomy for Vaginal Birth”. *The Cochrane Database Syst Rev* 2007, 4, 1.
- [19] Carvalho C.C.M., Souza A.S.R., Moraes Filho O.B.: “Episiotomia seletiva: avanços baseados em evidências”. *Femina*, 2010, 38, 265.
- [20] Berzain Rodríguez M.C., Camacho Terceros L.A.: “Episiotomía: Procedimiento a elección y no de rutina”. *Rev. Cient. Cienc. Med.*, 2014, 17, 53.
- [21] Corrêa Junior M.D., Passini Júnior R.: “Selective Episiotomy: Indications, Technique, and Association with Severe Perineal Lacerations”. *Rev. Bras. Ginecol. Obstet.*, 2016, 38, 301.

Corresponding Author:
 J.B. VERANO, M.D.
 Department of Gynecology and Obstetrics
 Ceilândia Regional Hospital
 QNM 27 Área Especial 01
 Brasília (Brasil)
 e-mail: julia_verano@hotmail.com