

Perineal Trauma in Port Harcourt, South-South Nigeria

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ABSTRACT

BACKGROUND: Morbidities associated with vaginal deliveries are many but under reported. Where data exist, women had been shown to suffer myriad of problems following vaginal birth. These include immediate trauma to the perineum from episiotomy and perineal laceration at vaginal deliveries. These women may also have other problems such as pelvic pain, uterine descent and incontinence to urine, stool or flatus as well as sexual, social and psychological dysfunction on the long term. The objective of the study was to determine the prevalence and predisposing factors of perineal trauma amongst women delivering at the University of Port Harcourt Teaching Hospital.

METHODS: A retrospective study of vaginal births between 1st January 2005 and 31st December 2007 at the University of Port Harcourt Teaching Hospital was done. The delivery register at the labour ward was used to identify the parturient with injury to the perineum following a vaginal birth. Data was retrieved from their case notes, entered into an excel spreadsheet and analyzed with SPSS version 17 for Microsoft windows.

RESULTS: A total of 2429 (53.8%) out of 5422 parturient had trauma to their perineum at delivery. Episiotomies were in 1811 (40.1%) parturient and perineal tears occurred in 697 (13.7%) parturient. While the prevalence of episiotomy decreased with parity, the incidence of perineal tears was found to increase with parity. Assisted vaginal deliveries and high parity were risk factors for episiotomy and perineal tear respectively.

CONCLUSION: The perineal trauma prevalence rate of 53.8% in Port Harcourt is unacceptably high. Nulliparity, vaginal breech and instrumental vaginal deliveries are the major risk factors for perineal trauma.

KEYWORDS: Perineal Trauma, Perineal Tear, Episiotomy, Vaginal delivery, Port Harcourt.

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INTRODUCTION

Although desirable, an intact perineum following vaginal delivery may not be achievable in all cases. Women may suffer different degrees of lacerating injury to the perineum. About 40% of the primigravida and 20% of multipara were reported to have been inflicted with perineal trauma during birthing.¹

Perineal trauma could result either from a spontaneous perineal tear sustained at vaginal delivery or from

episiotomy, which is a deliberate incision on the vulva required for different obstetric indications. Episiotomy was first described by Ould as a surgical incision on the perineum to increase the vulva outlet diameter during childbirth^{2,3,4,5}. Episiotomy is today one of the most frequently performed obstetric procedure worldwide.⁶

Its use had been justified on the basis that it prevents severe perineal tears and unnecessary trauma to the fetal head. It is also thought to offer better future sexual function as well as prevent urinary and faecal incontinence.⁴ As a result, a trend to routine episiotomy was widely practiced at the turn of the 20th Century. By the 1970's episiotomy rates were reportedly⁷ as high as 90% in some centres^{ref}.

Available evidence indicates that episiotomy is not without adverse maternal and neonatal consequences^{8,9} and as such the World Health Organisation has advised against routine episiotomy, and recommends an episiotomy rate of 10% for normal deliveries¹⁰. Thus many developed countries have started to manifest measurable declines in rates of episiotomy. The overall rates of episiotomy in different countries range from 8% in the Netherlands, 14% in England and 50% in the USA⁴. Presently very limited information exists relating to the past and current practice of episiotomy in many developing countries but a prevalence rate of 46.6% has been reported in Nigeria with 90% performed in primigravid parturients^{9,11}. Prevalence rate in a preliminary study at the University of Port Harcourt Teaching Hospital was 39.1%⁸, while in Ahmadu Bello University Teaching Hospital a prevalence rate of 35.6% was reported⁹.

Broadly there are 2 types of episiotomies: midline and mediolateral episiotomies. Other less common types are the lateral and J-shaped episiotomies. The midline episiotomy which is commonly used in USA involves a cut from the fourchette downwards towards the anus but not reaching the anus while the mediolateral episiotomy, common in UK and Nigeria involves a cut from the fourchette but outwards and laterally away from the anus. The advantages of the midline episiotomy over the mediolateral include: less blood loss, easy to perform and repair, faster wound healing, less postpartum pain, reduced incidence of dyspareunia and better end-result cosmetic appearance. However, its major disadvantage is the high risk of extension into third/fourth degree perineal tear¹³.

Perineal tear on the other hand is described as first degree when the injury involves only the skin of the perineum, second degree when the injury involves both the perineal skin and muscles, third degree when it involves the anal sphincter complex and fourth degree when both the anal sphincter complex and the anal epithelium are involved⁴. Episiotomy itself is equivalent to second degree perineal tear. It is also possible to have an episiotomy and a spontaneous tear, when an episiotomy extends to a third or fourth degree tear⁴. Risk factors for perineal tear include primiparity, fetal weight greater than 4kg, prolonged second stage of labour, instrumental delivery, direct occipitor position and precipitate labour.¹²

Irrespective of the type, perineal trauma during childbirth can be associated with short and long term complications including hemorrhage, sepsis, dyspareunia, persistent perineal pain, urinary and fecal incontinence and sexual and psychological dysfunction^{1,2,3}.

MATERIALS AND METHODS

The University of Port Harcourt Teaching Hospital is located in Alakahia, Port Harcourt and draws its patients from residents within and outside Port Harcourt metropolis and the catchment states of the Niger Delta area. Although a tertiary institution, the Obstetric and Gynaecology department has a liberal policy of accepting all categories of patients who registers for antenatal care, unbooked obstetric emergencies referred from other public and private hospitals, maternity homes and faith based organizations taking deliveries. It has a delivery rate of about 2417 per annum¹³.

The maternity registers and case notes of all patients who had vaginal delivery at the Maternity Unit of UPTH between 1st January 2005 and 31st December 2007 were retrieved and studied. Data collected were patients' age, parity, type of vaginal delivery, gestational age at delivery, Apgar scores and birth weight of babies, episiotomy and extent of perineal injury sustained. These were entered into a personal computer excel spreadsheet and analysed using SPSS 17.0 version. The results are presented as percentages, frequency tables, chi-square and relative risk with 95% confidence interval. P value < 0.05 was considered statistically significant.

RESULTS

Of the 4522 parturients who had vaginal delivery within the period under review, 2429 had perineal trauma, giving an overall perineal trauma rate of 53.8%. Up to 1811 patients had episiotomy, giving an episiotomy rate of 40.1%, while 502(11.1%) women sustained 1st degree and 117(2.6%) had 2nd degree perineal tears, giving a spontaneous perineal tear rate of 13.7%. There was no 3rd

or 4th degree perineal tear.

One thousand, six hundred and fifty four (36.58%) were nulliparous, 1496 (33.08%) were multiparous while 1372 (30.34%) were grandmultiparous. Majority, 2747(60.75%) deliveries were term, 1397 (30.89%) were pre-term, 143 (3.16%) were post term while 235 (5.20%) deliveries were at uncertain gestational age. Most 3710(82.04%) of the babies were of normal birth weight, 458(10.13%) were low birth weight, while 354(7.54%) were macrosomic. Twelve, (0.27%) babies were delivered by craniotomy, 71(1.57%) by assisted vaginal breech delivery, 118(2.61%) by instrumental vaginal delivery, while 4321 (95.56%) were by spontaneous vaginal delivery. Eight hundred and fifty (18.80%) had birth asphyxia, while 158(3.50%) were stillborn.

Table 1. Parity and Perineal Trauma

Perineum	Para 0		Para 1-4		Para ≥5	
	No.	Percent	No.	Percent	No.	Percent
Episiotomy	1126	68%	509	34.1%	176	12.8%
1 st Degree Tear	68	4.1%	222	14.8%	210	15.3%
2 nd Degree Tear	37	2.2%	39	2.6%	42	3.1%
Intact Perineum	423	25.6%	726	48.5%	944	68.8%
Total	1654	100%	1496	100%	1372	100%

Table I above shows the effect of parity on the prevalence of episiotomy and spontaneous perineal tears.

One thousand one hundred and twenty six (68.1%) nulliparous(P₀) women had episiotomies compared to 509 (34.1%) of multiparous(P₁₋₄) and 176 (12.8%) of grandmultiparous (P_{≥5}) parturients. The difference between the episiotomy rates of nulliparous and parous parturients was statistically significant as Po vs P₁₋₄, $\chi^2 = 363.53$, P = 0.000000. RR = 2.0; Po vs P_{≥5}, $\chi^2 = 931.57$, P = 0.000000. RR = 5.31; P₁₋₄ vs P_{≥5}, $\chi^2 = 175.70$, P = 0.000000. RR = 2.65.

In contrast, the prevalence of perineal tear increased with parity; 6.3% (105) in nulliparous parturients, 17.4% (261) in multiparous women and 18.4% (252) in grandmultiparae. The difference between the perineal tear rates of parous and nulliparous parturients was statistically significant as P=0.03.

Table II: Illustrates the gestational age at delivery and the risk of episiotomy. Up to 37.3% (521) of the parturients with preterm babies had episiotomies while 41.8% (1148) and 28.7% (41) of the parturients with term and post-term babies respectively had episiotomies. The gestational age of the babies at delivery had statistically significant effect on the incidence of episiotomy when the parturients with term vaginal births were compared with parturients with

Table 11. Gestational Age and Perineal Trauma

Perineum	Gestational Age (weeks)							
	<37		37-42		>42		Uncertain	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Episiotomy	521	37.3%	1148	41.8%	41	28.7%	101	42.9%
1st Degree Tear	126	9.0%	335	12.2%	13	9.0%	26	11.1%
2nd Degree Tear	21	1.5%	55	2.0%	28	19.6%	14	6.0%
Intact Perineum	729	52.2%	1209	44.0%	61	42.9%	94	40.0%
Total	1397	100%	2747	100%	143	100%	235	100%

either preterm or post term vaginal births;
 GA_{37-42} vs $GA_{<37}$, $\chi^2 = 7.89$, $P = 0.0049754$. $RR = 0.89$,
 GA_{37-42} vs $GA_{>42}$, $\chi^2 = 9.13$, $P = 0.0025179$. $RR = 1.46$
 There was no statistically significant difference in episiotomy rates between preterm and post-term vaginal births;
 $GA_{<37}$ vs $GA_{>42}$, $\chi^2 = 3.73$, $P = 0.0534874$. $RR = 1.30$,
 In contrast the incidence of perineal tear was significantly higher at post term 41 (28.6%) compared to term (14.2%); $P = 0.025$ and preterm (10.5%); $P = 0.0015$.

Table III: Birth Weight and Perineal Trauma

Perineum	Birth Weight (Kg)					
	< 2.50		2.55-3.99		>4	
	No.	Percent	No.	Percent	No.	Percent
Episiotomy	164	35.8%	1516	40.8%	131	38.0%
1st Degree Tear	11	2.4%	415	11.2%	74	20.9%
2nd Degree Tear	7	1.5%	102	2.7%	9	2.5%
Intact Perineum	276	60.3%	1677	45.2%	140	39.6%
Total	458	100%	3710	100%	354	100%

As shown in Table III, about 36% of the parturients with low birth weight babies and 38% of the parturients with macrosomic babies had episiotomies. By contrast 3.9% of mothers of low birth weight babies and 23.4% of mothers of macrosomic babies had perineal tears. There was no statistically significant difference between episiotomy rate and birth weight of babies;
 $Wt_{>4}$ vs $Wt_{<2.5}$, $\chi^2 = 0.08$, $P = 0.7807499$. $RR = 1.03$,
 $Wt_{>4}$ vs $Wt_{2.5-3.99}$, $\chi^2 = 1.84$, $P = 0.1752221$. $RR = 0.91$,

Table IV. Delivery Mode and Perineal Trauma

Perineum	Mode of Delivery							
	SVD		IVD		AVBD		Craniotomy	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Episiotomy	1702	39.4%	67	56.8%	42	59.2%	0	0.0%
1st Degree	493	11.4%	3	2.5%	4	5.6%	0	0.0%
2nd Degree	117	2.7%	1	0.8%	0	0.0%	0	0.0%
Intact Perineum	2009	46.5%	47	39.8%	25	35.2%	12	100%
Total	4321	100%	118	100%	71	100%	12	100%

SVD = Spontaneous Vaginal Delivery
IVD = Instrumental Vaginal Delivery
AVBD = Assisted Vaginal Breech Delivery

Table IV demonstrates the effect of mode of delivery on the incidence of episiotomy. Forty two (59.2%) of those with assisted vaginal breech deliveries (AVBD) had episiotomies while 67 (56.8%) of parturients with instrumental vaginal deliveries (IVD) had episiotomies. Only 1702 (39.4%) of parturients with spontaneous vaginal delivery (SVD) had episiotomies. Compared to spontaneous vaginal delivery, breech and instrumental vaginal deliveries were associated with a higher incidence of episiotomy and a lower incidence of perineal tear. There were statistically significant differences between the different modes of delivery and episiotomy rate;

SVD vs IVD , $\chi^2 = 13.78$, $P = 0.0002059$. $RR = 0.69$,
 SVD vs $AVBD$, $\chi^2 = 10.59$, $P = 0.0011379$. $RR = 0.67$,

Instrumental vaginal delivery had a lower rate of episiotomy compared to breech delivery and as a result had a higher incidence of perineal tear.

Table V. Apgar Score and Perineal Trauma

Perineum	Apgar Score @ 5 minutes					
	0		1-6		≥7	
	No.	Percent	No.	Percent	No.	Percent
Episiotomy	34	21.5%	325	38.2%	1452	41.3%
1st Degree Tear	33	20.9%	98	11.5%	369	10.5%
2nd Degree Tear	4	2.5%	28	3.3%	86	2.4%
Intact Perineum	87	55.1%	399	46.9%	1607	45.7%
Total	158	100%	850	100%	3514	100%

As shown in Table V, 34 (21.5%) of the parturients with stillborns had episiotomies while 325 (38.2%) and 1452 (41.3%) of parturients with asphyxiated and non-asphyxiated babies respectively had episiotomies. The difference in episiotomy rate of mothers with live born babies was statistically significant compared to mothers of stillborn babies [LB vs SB , $\chi^2 = 1322.62$, $P = 0.0000020$. $RR = 1.89$]

By contrast, the perineal tears were more amongst the parturients with stillborns (23.4%) compared to the asphyxiated (14.8%) and non-asphyxiated (12.9%) babies.

DISCUSSION

The high episiotomy prevalence rate of 40.1% in this study is comparable to the 46.6% reported¹¹ at the

University of Benin Teaching Hospital, South-South Nigeria, but higher than the 28.4% reported at University College Hospital, Ibadan, South-West Nigeria¹⁴. On the other hand, the 13.7% spontaneous perineal tear rate in this study is slightly lower than the perineal tear rate of 17.5% reported in Benin¹¹, but much higher than the 7.4% perineal tear rate reported in Ibadan¹⁴. These differences may be as a result of more liberal use of episiotomy, the absence of clearly documented policies on episiotomy, and the fact that midwives conduct most of the deliveries in our centre.

There was no third or fourth degree perineal tear reported in our study. This may be due to the fact that all episiotomies performed were mediolateral in keeping with British training tradition. This is similar to reports from Ibadan¹² and Benin City¹¹. The mediolateral episiotomies have been noted to have a preventive role in third or fourth degree perineal tears compared to midline episiotomies^{4,15}.

Episiotomy rate was particularly high (68.1%) in our nulliparous women, and again exceeding that reported in Ibadan where only 50.8% of nulliparous women had episiotomies¹². It was also higher than the 40% reported in primigravid parturients reported from United Kingdom^{4,16}. The high rate of episiotomy in our nulliparous women suggests that accoucheurs probably applied routine use of episiotomy on nulliparous women even though there evidence shows that routine use of episiotomy has any beneficial effect¹⁷; on the contrary there is clear evidence that it may cause harm such as a greater need for surgical repair and a poorer future sexual function. Thus restrictive use of episiotomy rather than routine use of episiotomy should be favoured in parturients; especially the nulliparous group¹⁸. The incidence of episiotomy declined with increasing parity amongst the multiparous women. This may suggest a restrictive or selective use of episiotomy in multiparous women. The slight increase in incidence of second degree spontaneous perineal tears with increasing parity was not statistically significant demonstrating the benefit of a selective use of episiotomy among parturients.

Though episiotomy has been advocated in preterm deliveries and post term deliveries to reduce pressure on the fetal head and to prevent perineal tear respectively during vaginal deliveries¹⁰, neither Preterm nor post term deliveries constituted significant risk factors for episiotomy or perineal tear in our study population. There was no statistically significant difference in the occurrence of birth asphyxia in the term, preterm or post term babies. However, the higher incidence of spontaneous perineal tear in post term compared to preterm and term births suggests that there was room for more episiotomies in the post term group.

The birth weight of the babies appeared not to have any influence on episiotomies. This is similar to the reports of Bansal et al¹⁹. The other factors associated with episiotomy in this study were assisted vaginal breech delivery and instrumental vaginal delivery. These are time honoured indications for episiotomies which have remained unchanged in many countries^{11,18}. The episiotomy rate was higher among mothers who had live births compared to mothers who had stillbirth. This is similar to the findings of Albers et al²⁰. Factors which may contribute to lower incidence of episiotomy in stillborns include absence of fetal distress, overriding of the skull bones with reduction in the presenting diameter and the "avoid episiotomy at all cost attitude" amongst the parturients with intrauterine fetal death (thought to be associated with high rate of episiotomy repair breakdown)

Episiotomy and other forms of perineal trauma affect women's physical, psychological and social wellbeing both in the immediate and long term postnatal period. It can also disrupt breastfeeding, family life and sexual relationships. In the United Kingdom, approximately 23-42% of women will continue to have pain and discomfort for 10-12 days post partum and 8-10% of women will continue to have long term pain (3-18 months following delivery), 23% of women will experience superficial dyspareunia at three months; 3-10% will report faecal incontinence and up to 19% will have urinary incontinence⁴. Simple interventions such as antenatal and intrapartum perineal massage have shown a subsequent reduction in the use of episiotomy without a concomitant rise in perineal lacerations². Such intervention could be easily introduced and would result in significant benefit for women.

The high rate of episiotomy reported in this study is likely due to the lack of an effective policy towards achieving a reduction in its incidence.

CONCLUSION

There is high perineal trauma rate in Port Harcourt due to the liberal use of episiotomy especially among the primigravidae. Restrictive, rather than routine use of episiotomy should be encouraged in order to curb the rising episiotomy rate.

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