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Episiotomy Practice in A Tertiary Hospital in South-South Region of Nigeria: A 5-Year Review

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ABSTRACT:

Background: Episiotomy is one of the commonest obstetrics surgical procedure. It was introduced into obstetrics practice in the 18th century there has been a declined in its rate especially in developed world. The aim of this study was to determine the episiotomy rate and feto-maternal outcome following delivery at the Delta State University Teaching Hospital (DELSTH), Oghara, Nigeria

Methodology: The study was a retrospective review of patients who had episiotomy at delivery. Case files of 119 patients who had episiotomy during delivery, during the study period were retrieved and analyzed. Nineteen of these patients with episiotomy had incomplete data in their folders, hence were excluded from the study. Details of patients were obtained from labour ward, operating theater and the case notes of these patients were retrieved from the medical record department. Data was analyzed using SPSS version 22.

Results: Episiotomy rate in this study was 14%. Majority (65%) of the patients were primigravida. Majority of the women (93%) had medio-lateral episiotomy and perineal pain and swelling were the commonest complications.

Conclusion: The episiotomy rate in this study was slightly higher than the 10% WHO recommendation but much lower than reports from other regions in the country. There is therefore the need to emphasize the importance of restrictive episiotomy with the aim of reducing maternal morbidity after delivery.

KEYWORD: Episiotomy, Spontaneous Vaginal Delivery, Primigravida, Maternal Morbidity, DELSUTH.

INTRODCTION

Episiotomy is a common surgical intervention made in obstetrics practice.[1,2] It is a surgical incision deliberately made on the posterior vaginal wall and the perineum in second stage of labour to widen the diameter of the pelvic outlet, thereby facilitating vaginal delivery.[1,3] The structures involved include vaginal mucosa, superficial perineal muscle and part of levator ani muscle.[4,5] Episiotomy was first introduced into obstetrics in 18th century.[6] During this period it was routinely done for primigravida, patient undergoing augumentation of labour and instrumental deliveries with the aim of preventing damage to the pelvic floor and providing benefits for the fetus by reducing cephalic pole compression.[6,7,8] Currently practice has prevented the routine use of episiotomy due to complications that can arise, some includes increased maternal perineal pain, sexual dysfunction, anal sphincter laceration, fecal and urinary incontinence, rectovaginal fistula, dyspareunia, increased volume of blood loss, prolonged wound healing time as compared to spontaneous perineal tear.[2,4] A systematic review of randomized controlled trials showed that selective episiotomy during non-instrumental vaginal delivery resulted in a reduction of severe perineal trauma compared with routine episiotomy.[3] The WHO also stated that limiting the use of episiotomy to strict indications has a number of benefits such as less posterior perineal trauma, less need for suturing and fewer complications.[2]

While the American College of Obstetrics and Gynecology (ACOG) recognizes the role of episiotomy in assisted vaginal birth (vacuum or forceps delivery), the guideline currently states that "data and clinical opinion suggest that there are insufficient objective evidence-based criteria to recommend episiotomy routinely".[4] World Health Orgnaization (WHO) recommends an episiotomy rate of 10% for vaginal delivery.[4,5] Data reported from developing countries on the rate of episiotomy varies from one country to another, and from region to region in the same country.[6] Episiotomy rate of 45.2% has been reported in Ethiopia.[6] In Nigeria, episiotomy rate varies across institutions, it ranges from 9.3% to 54.9% across the six geo-political regions of the country.[7,8]

There are 3 types of episiotomy and these include mediolateral, midline and J shaped incision.[7,9,10] The mediolateral episiotomy is the most common, and it starts at the posterior fourchette and extends inferiorly at an angle of 45˚ to the perineal body. It is

usually 3 – 4 cm long., it transverse through vaginal mucosa, perinea muscles, bulbocarvernosus and perineal skin. The benefit includes less extension to the anal sphincter while draw backs includes poor healing, bleeding, difficult to repair. This is mainly practices in UK and other part of the world except United States.[5] The midline episiotomy extends from the posterior fourchette inferiorly in a midline fashion towards the anus. It transverses the vaginal mucosa, perineal body, and the junction of bulbocarvenous muscle. The advantages include good healing, easy to repair, less pain at the perineum, less blood loss but its disadvantage is higher rate of extension into the anal sphincter that may results in third or fourth degree perineal tear.[8] Midline incision is mainly practice in the United States. The other form of episiotomy incision is not commonly practiced in our enviroment.[9,10]

Episiotomy incision is promptly repaired after delivery of the baby and placenta with aim of securing hemostasis and approximation of the cut edges for proper healing.[11] This aseptic procedure is done in the theater with good light source, proper exposure and right instruments. The repair begins 0.5 to1cm above the apex of the incision within the vagina and secured with a knot, vaginal mucosa and sub-mucosa areas are sutured up to the hymen. This is then followed by repaired of perineal muscles then lastly perineal skin is approximated using vicryl 2/0 in a continous subcuticular fashion.

The aim of this study was to determine the episiotomy rate and common maternal morbidity associated with episiotomy at the Delta State University Teaching Hospital, Oghara over a five year period and findings from the study will enhance and contribute to the burden of knowledge on the subject matter

METHODOLOGY

The study was a retrospective review of all vaginal deliveries from January 1, 2019 to December 31, 2024. A total of 853 patients who had vaginal delivery during the period and 119 of these patients had episiotomy. Of these 119 parturients, 19 of them were excluded due to incomplete data retrieval and the remaining 100 patients formed the basis for further analysis.

The study was conducted at the department of Obstetrics and Gynaecology of the Delta State University Teaching Hospital, Oghara. Delta State, Nigeria. The hospital is owned by Delta State government and it provide specialist care to patients and serves as major referral centre to private hospitals/clinics and General hospital in Delta state and neighboring towns in Edo, Bayelsa and even Rivers States.

The study population consisted of women who had vaginal delivery during this study period. Details of patients were obtained from antenatal, labour ward, operating theater records and the case notes of these patients were retrieved from the medical record department. Variables of interest included maternal age, level of education, parity, gestational age at delivery, volume of blood loss, pain after 2weeks postpartum, sexual resumption. Maternal anaemia was defined by haemoglobin concentration of <10g/dl. Five-minute Apgar score was used to assess fetal outcome. Data was analyzed using SPSS version 22 and results were presented in charts, graphs, percentages and tables.

Ethical approval was obtained from DELSUTH Health Research Ethics Committee with reference number DELSUTH/HREC/2025.119/0930 and approval to access the case files was obtained from hospital management.

RESULTS

There were 853 vaginal deliveries during the period under review and 119 of these patients had episiotomies, giving a prevalence of 14.0%. Nineteen (19) patients were excluded for incomplete data while the remaining one hundred (100) of the patients formed the basis of the analysis of the results presented below.

Table 1 showed the socio-demographic and obstetrics characteristics of the study participants. The age ranged was 18- 47 years, with a mean age of the participants was 28.5 ± 7.3 and a modal age group of 18-24 years old (40.0%). Most participants were married (77.0%), Christians (73.0%), with half of the population being housewives (50.0%) and having a secondary level of education and (50.0%).

Table 2 revealed that most of the patients had episiotomy following spontaneous vaginal delivery (SVD), accounting for 69.0%, and 92.0% of this women had medio-lateral type of episiotomy. More than two third of the patients (68.0%) had blood loss less than 500mls. Most (70.0%) of the babies delivered had Apgar Score ≥ 7.

Majority (66.0%) of the women with episiotomy had a well apposed wound healing. Pain and swelling accounted for almost two third (59.0%) of the complications the women experienced in the study. Following a successful repair of the episiotomy, 46.0% and 37.0% of the women received analgesics and antibiotic respectively, Table 3.

Table 4 Showed the comparison between the various types of episiotomies with the socio-demographic characteristics of the study participants, there was no significant association when comparing the outcome variables with age group, marital status, religion, level of education and occupation ($p < 0.050$). However, one-way ANOVA showed that there was a significant relationship between the types of episiotomies and the ages of the participants. Also, a post Hoc analysis using Tukey HSD showed that the age of those who had medio-lateral episiotomy was significantly higher than those with medial episiotomies (29.8 ± 7.2years vs.25.6 ± 6.1years; $p = 0.047$).

Most participants with medio-lateral and medial episiotomies had lower amounts of blood loss, of less than 500mls (71.7% vs. 85.7% respectively) when compared to those who had J-shaped episiotomies with had higher amounts of blood loss of ≥500mls (100%); this was statistically significant (p = 0.005) as shown in table 5.

Also, most participants with medio-lateral and medial episiotomies complained of pain (40.2% and 14.3% respectively) when compared to those who had J-shaped episiotomies in which all of the participants had swelling (100%). This was statistically significant (p=0.012).

Table1: **Table showing socio-demographic and obstetrics characteristics**

Characteristics		**Frequencies (n)**	**Percentages(%)**
Age (years)	18-24	40	40.0
	25-29	18	18.0
	30-34	17	17.0
	35-39	15	15.0
	≥40	10	10.0
	Mead ± SD	28.5 ± 7.3	
Parity	Nullipara P1 P≥2	65 23 12	65 23 12
Marital Status	Single	15	15.0
	Married	77	77.0
	Separated/divorced	8	8.0
Religion	Christian	73	73.0
	Muslim	27	27.0
Educational level	No formal education	12	12.0
	Primary	16	16.0
	Secondary	50	50.0
	Tertiary	22	22.0
Occupation	Housewife	50	50.0
	Business	19	19.0
	Student	10	10.0
	Unemployed	21	21.0

Table2: **Table showing maternal outcome**

Characteristics		**Frequencies (n)**	**Percentages(%)**
Type of vaginal delivery	Spontaneous vaginal delivery	69	69.0
	Breech delivery	22	22.0
	Assisted vaginal delivery	9	9.0
Type of Episiotomy	Mediolateral	92	92.0
	Midline	7	7.0
	J-shaped	1	1.0
Volume of Blood loss (ml)	<500	68	68.0
	≥500	32	32.0
APGAR score at 5mins	< 7	30	30.0
	≥ 7	70	70.0

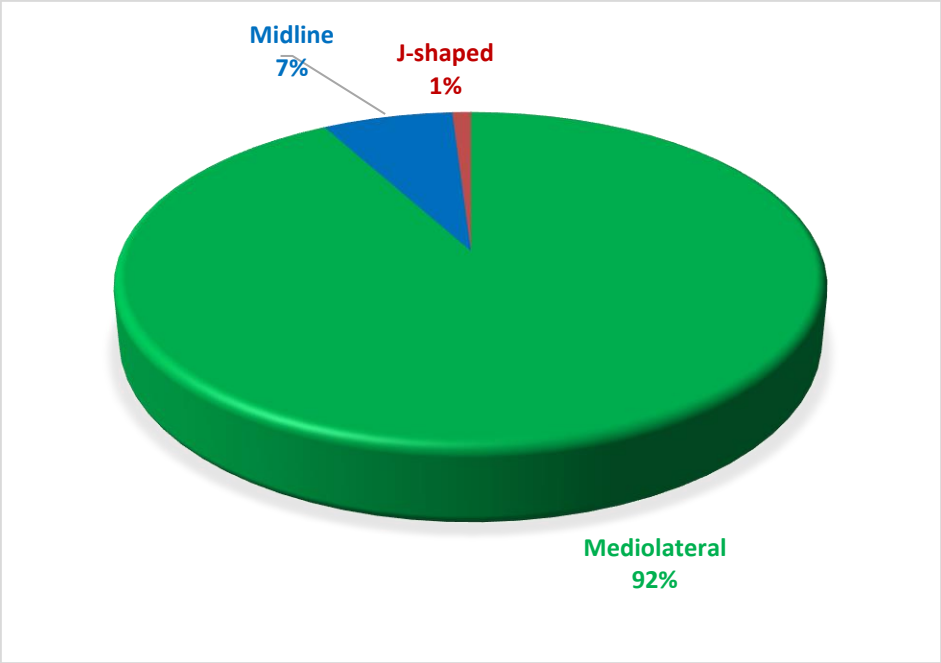

Figure 1: Pie chart showing the various types of episiotomies done.

Table 3: **Maternal outcome after 2weeks**

Characteristics		**Frequencies (n)**	**Percentages(%)**
Wound apposition	Wound well apposed	66	66.0
	Wound not well apposed	34	34.0
Complications	Pain	38	38.0
	Swelling	21	21.0
	Discharge	20	20.0
	Wound Breakdown	10	10.0
	Par Abdominal Request	11	11.0
Treatment	Antibiotics	37	37.0
	Analgesics	46	46.0
	Secondary wound repair	17	17.0

Table 4: **A comparison between the types of episiotomies with the socio-demographic and obstetrics characteristics of the study participants.**

Characteristics		**Mediolateral**	**Medial**	**J-shaped**	χ^2/F	**p-value**
		n (%)	**n (%)**	**n (%)**		
Age (years)	18-24	36 (38.7)	4 (51.7)	1 (100)	12.775	0.120
	25-29	17 (18.3)	0(0)	0 (0)		
	30-34	17 (18.3)	0(0)	0 (0)		
	35-39	15 (16.1)	0 (0)	0 (20)		
	≥40	8 (8.6)	2 (28.6)	0 (10)		
	Mead ± SD	29.8± 7.2	25.6± 6.1	26.3± 8.6	3.401	***0.037**
Parity	Nullipara P1 P≥2	60(65.2) 20(21.7) 12(13.1)	5(71.4) 2(28.6) 0(0)	0(0) 1(100) 0(0)	9.142	***0.001**
Marital Status	Single	9 (13.5)	5 (21.8)	1 (10)	1.526	0.822
	Married	52 (77.7)	17 (74)	8 (80)		
	Separated/divorced	6 (9)	1 (4.4)	1 (10)		

Religion	Christian	69 (75)	4 (57.1)	0 (0)	1.045	0.593
	Muslim	23 (25)	3 (42.9)	1 (100)		
Educational level	No formal education	12 (13.0)	0 (0)	0 (0)	2.814	0.832
	Primary	10 (10.9)	6 (85.7)	0 (0)		
	Secondary	49 (52.3)	1(14.3)	0 (0)		
	Tertiary	21 (22.8)	0(0)	1 (100)		
Occupation	Housewife	50 (56.8)	0 (0)	0(0)	9.719	0.137
	Business	17 (19.3)	1 (14.3)	1 (100)		
	Student	4 (4.5)	2 (28.6)	0 (0)		
	Unemployed	17 (19.3)	4 (57.1)	0 (0)		

Table 5: **A comparison between the types of episiotomies with the maternal outcome and obstetrics characteristics of the study participants.**

Characteristics		**Mediolateral**	**Medial**	**J-shaped**	χ^2	**p-value**
		n (%)	**n (%)**	**n (%)**		
Type of vaginal delivery	SVD	69 (75)	0 (56.6)	0 (80)	2.803	0.591
	BD	15 (16.3)	7 (100)	0 (10)		
	AVD	8 (8.7)	0 (0)	1 (10)		
Volume of Blood loss (ml)	<500	66(71.7)	6 (85.7)	0 (0)	10.456	***0.005**
	≥500	26 (28.3)	1(14.3)	1 (100)		
APGAR score at 5mins	< 7	20 (21.7)	4 (51.4)	0 (0)	0.727	0.695
	≥ 7	72 (78.3)	3 (42.9)	1 (100)		
Wound apposition	Wound well apposed	60 (65.2)	5 (71.4)	1 (100)	1.358	0.507
	Wound not well apposed	32 (34.8)	2 (28.6)	0 (0)		
Complications	Pain	37 (40.2)	1 (14.3)	0 (0)	19.572	***0.012**
	Swelling	18 (19.5)	2 (28.6)	1 (100)		
	Discharge	17 (18.4)	2 (28.6)	0 (0)		
	Wound Breakdown	10 (10.9)	0 (0)	0 (0)		
	Poor Anatomical Repair	1O (10.9)	2 (28.6)	0 (0)		
Treatment	Antibiotics	34 (37.0)	7 (100)	0 (0)	1.197	0.879
	Analgesics	41 (44.6)	0 (0)	1 (100)		
	Secondary wound repair	17 (18.4)	0 (0)	0 (0)		

DISCUSSION

The aim of this study was to determine the episiotomy rate and fetomatenal outcome after delivery. This study showed that the episiotomy rate was 14%. This is slightly higher than the 10% rate recommended by WHO but lower than 18.5% reported by Tex-jack et al,[12] our findings is also lower than 22% reported by Adama et al[13] and 65.6% reported by Izuka et al[8]. Our findings may be attributed to the fact that Delta State University Teaching Hospital is a referral centre as it receives patients including unbooked paturients from within and outside delta state.

The mean age group was 28.5 ± 7.3 years, the age group with the highest numbers of patients was 18 – 24 years, and this accounted for 40%. This findings were similar to studies done by Teshome et al[5], Ad ama et al[13] and Kartel et al[14] Most of these women at this age group were primigravida and as such the perineal muscles are quite rigid making it difficult for the fetal head to navigate through the pelvic outlet. This may also lead to the used of instrumental deliveries, hence increasing the need for an episiotomy. Most of the women (65%) that had episiotomy were nlliparous ladies. This was similar to reports from south east and south west regions of nigeria[2,8,13]. Primigravida are at risk of episiotomy due to the rigid perineal tissues and rigid nature of the perineum. This can lead to prolonged second stage of labour and its complications to both the mother and her baby.

Our study showed that the most commonest form of episiotomy done in this centre was medio-lateral episiotomy and it accounted for 92.0% . This was similar to report by Obodo et al[3] in Nigeria and Adama et al[4] in Bogodogo, Burkina Faso. Medio-lateral episiotomy is the commonest type of episiotomy done in our facility. It is easier to perform and demonstrate while teaching the junior residents and has a lower risk of advancing to 3rd and 4th degree perineal tears, that can be traumatic to the patient. Majority (70%) of the babies delivered following episiotomy had good apgar score, this was similar to report by Teshome et al[5] while 30% of the babies had low apgar score, as these could have been attributed to duration of second stage of labour and/or possible need of oxytocin augmentation.

Two third of the patients that has vaginal deliveries had a well apposed wound edges, while 34% had their episiotomy wound poorly apposed. This was similar to study done by soleimanzadeh et al.[6] and the factors that could be attributable to poor wound healing was poor perineal hygenie, poor suturing technique and lack of antibiotic usage. The most common complications noted by these patient following an episiotomy was perineal pains and this accounted for 38%. This was in line with studies done Ononuju et al[7] and Obasi et al[2] where severe pains were commonest episiotomy complications accounting for 34.3% and 44.5% respectively. This could be due to the inadequate use of local anaesthesia during episiotomy repairs and early resumption of sexual intercourse by some parturients, as this can results in wound breakdown and perineal pain. Other complications noted in this study were swelling 21% and discharge 20%. Most of these patients (46%) had analgesic for two weeks following episiotomy repair, while 37% had antibiotics. Austad K et al[8] in his article showed that women who had episiotomy are more likely to receive antibiotics. Antibiotics may be indicated for third and forth degree perineal tear but it's not universally acceptable to use antibiotic for episiotomy. In our environment where environmental, along with personal hygenie is a problem, the need for prophylactic use of antibiotic following episiotomy becomes necessary in order to prevent overwhelming infection. Also the sterility of instrument and lack of balance diet among some of the patients are other reasons why antibiotics may be required in developing countries following episiotomy.

A comparison between the various types of episiotomies with the socio-demographic characteristics of the study participants, demonstrates that there was no significant association when comparing the outcome variables with age group, marital status, religion, level of education and occupation ($p < 0.050$). But there was an association between primigravida group and type of episiotomy with a p value < 0.001, this finding was similar to study done by Teshome et al[5] and Indhumathi et al[9] which showed that there was a statistically significance relationship between primagravida and episiotomy. This is so because the perineum of primigravida is rigid as the perineum has never been tested as labour may be prolonged and results in maternal and fetal morbidity and mortality if episiotomy is not given. A one-way ANOVA showed that there was a significant relationship when comparing the types of episiotomies with the ages of the participants; a post Hoc analysis using Tukey HSD showed that the age of those who had medio-lateral episiotomy was significantly higher than those with medial episiotomies (29.8 ± 7.2years vs.25.6 ± 6.1years; $p = 0.047$), this was in accordance with study done by Owa et al[1] and Azu et al[10]. Women with ages less than 24 year are known to have immatured pelvic especially those below 19years of age, this alongside tightness of the perineum usually predispose then to have episiotomy in other to shorten second stage of labour.

Most participants with medio-lateral and medial episiotomies significantly had lower amounts of blood loss of <500mls (83.5% vs. 22.6% respectively) compared to those who had J-shaped episiotomies with had higher amounts of blood loss of ≥500mls (100%) ($p = 0.005$) and this could be attributed to difficulty with repair and the vascular structure involved.

CONCLUSION

Results from this study showed that the episiotomy rate was 14%, and there was a significant relationship between primigravida with episiotomy. Performing episiotomy increases post partum pain that the patient experiences.

RECOMMENDATION

Following this study we recommend restrictive used of episiotomy for nulliparous patient in our environment. It is paramount that postnatal appointment show be carried out 2weeks after discharge to examine and assess patient following a spontaneous vaginal delivery aided by episiotomy.

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