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Research Article

Episiotomy Practice and its Associated Factor among Women Who Gave Birth at Public Health Institutions of Akaki Kality in Addis Ababa, Ethiopia

Solomon Adanew Worku*, Yohannes Moges Mitku and Sewunet Azezewu Getahun

Department of Midwifery, College of Health Sciences, Debre Berhan University, Debre Berhan, Ethiopia

ABSTRACT

Introduction: Episiotomy is defined as perineum enlargement incision during the second stage of labor to increase the diameter of vaginal outlet to facilitate baby birth. It is commonly practiced procedure in obstetrics and the rate of episiotomy varies widely worldwide. To assess the magnitude of episiotomy practice and its associated factors among women who gave birth at public health institutions of Akaki Kality, 2017/2018.

Method: A facility based cross-sectional study design using a quantitative method was used to conduct this study from March 2 to April 30/2018 GC. Systematic random sampling technique was used to select participants for the assessment. A total of 381 selected mothers by systematic random sample technique in public health institution of Akaki Kality sub city A.A, Ethiopia to examine sets of variables using questionnaire. Data were analyzed using descriptive statistics and a logistic regression model to identify factors associated with the outcome variable and the result was presented using the OR as well as AOR with the corresponding 95% CI.

Results: In this study among the participants the prevalence of episiotomy was found to be 134 (35.2%). Urban residence [AOR=2.947 (1.321, 6.572)], face presentation [AOR=15.972 (2.289, 111.440)] birth attendant (when doctors attend)[AOR=11.187 (1.917, 65.285), duration of second stage of labor, who stayed above 2 h [AOR=11.167 (2.567, 48.588)], prim parity [AOR=15.031 (6.369, 35.475)] and weight above 4000 g [AOR=26.343 (26.159, 265.289)] were factors significantly associated with episiotomy.

Conclusion: The prevalence of episiotomy in this study was relatively high (35.2%) as compared to recommended practice by WHO (10%), developing stratagem, guideline and periodic training on regarding the indication of episiotomy should be provided and more efforts should be made to reduce the rate of episiotomy, to improve wellbeing and quality of women's life.

Keywords: Associated factor; Episiotomy; Magnitude

INTRODUCTION

Episiotomy is one of the most common procedures in obstetrics; defined as perineum enlargement incision during the second stage of labor to increase the diameter of vaginal outlet to facilitate baby birth [1]. Studies about the episiotomy rates, around the world, showed that this surgery ranged from 9.7% (western) to 96.2% (South America-Ecuador) with lowest episiotomy rates in English speaking countries and it remained high in South America, South Africa, and Asia [2]. Episiotomy has been described in the medical literature for more than 300 years ago, but it was not performed until, the 1920s, with the publication of paper by De Lee and that more routine use of episiotomy become accepted [3]. The routine practice of episiotomy was recommended in the past with the aim of preventing damage to the pelvic floor and benefits for the fetus by reducing cephalic pole compression [4].

The WHO state 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 complication [5] while the most common recommendation is for restrictive

***Correspondence to:** Dr. Solomon Adanew Worku, Department of Midwifery, College of Health Sciences, Debre Berhan University, Debre Berhan, Ethiopia, Tel: +251939020931; E-mail: solhabtu@gmail.com

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use of episiotomy to be performed only when indicated episiotomy rate around the world differ considerably. The considerable variations in the percentage of the use of routine episiotomy exist between countries within countries and even within the same professional [6].

Over the past two decades, a growing body of literature and increased advocacy efforts have led to a general consensus that episiotomy should not be conducted as a standard practice. Nevertheless, in many parts of the world, the majority of the women still undergo episiotomy during child birth [6].

Episiotomy is also responsible for complication such as perineum lesion extension, hemorrhage, edema, infection, hematoma, dyspareunia, recto vaginal fistula, mayo necrosis, neonatal intoxication from Lidocaine hypersensitivity reaction to anesthetics, need of surgical correction due to irregular or excessive scaring problem, pain after delivery or maternal rejection of the newborn due to pain the pain may be relieved by giving analgesia [7].

Many studies, reviews have evidence that there is no scientific basis for maintaining the systematic practice of episiotomy. In fact it is admitted that its practice brings about an increase of intra and post-operative complications, suggesting its practice to be restricted to selected patient knowing the indication of episiotomy, the types of episiotomy the proper procedure, the outcome and complication for which episiotomy procedure will perform is very important for better management and prevention of complication [8].

The magnitude of episiotomy practice varies according to socio-demographic factor, obstetric procedure, maternal history and conditions, fetal condition, gestational age, duration of labor and its onset and type of birth attendant. In 2000, Robinson and associates found the practice of episiotomy (21%), (33%) and (55%) among midwives, medical school faculty and private practice provider [9].

Ethiopia is one of the countries which has the highest number of maternal mortality in the world from these half million women die as a result of pregnancy and childbirth each year [10]. One of the leading causes of maternal mortality and morbidity is the hemorrhage which contributes by vaginal wall laceration (accidental or incisional episiotomy) [7]. One of the important elements of primary health care is maternal and child health care which needs skilled assistance during pregnancy and childbirth [11].

MATERIALS AND METHODS

Study area period

The study was conducted from March 2, 2018, to April 30; 2018 G.C in the public health institutions of Akaki Kality. It is located in the southern parts of the city. According to the 2007 national census report, the total population of the sub-city is estimated 220740 [11].

Study design

Institutional based cross-sectional study design was employed.

Source and study population

All mothers who gave birth through vaginally at selected public health institution of Akaki Kality.

Sample size and sampling procedure

The sample size for the magnitude of episiotomy was determined by using single population proportion formula using a basic assumption of 95% confidence interval, 5% margin of error and proportion (p as 40%) [12]. By adding 5% of non-response rate the minimum sample size for this study was 387 mothers who gave birth at a public health institution.

A systematic random sampling technique was employed for the selection of the sampling units. In the sub-city, there were one general hospital and ten health center. Among those health facilities, we select one hospital purposely and four health centers randomly by lottery method for our study to represent all public health institution of Akaki Kality and allocating proportionally to the selected public health institutions based on monthly average number of deliveries. According to pre-assessment done, the total sample size was met by systematic random sampling technique of daily caseload, (i.e., kth value 795/387 = 2.05 ~ 2) every other woman was included in the sample until the total sample size for this study is obtained. Data was collected through face to face interview using pretested questionnaires and chart review (for question couldn't answer by interviewer only).

Data processing and analysis

The data was intensively cleaned up before its analysis and was entered using Epi Data 3.1 version and analysis was carried out using statistical package for social sciences (SPSS) version 22. Frequency distribution tables and statistical graphs were used to describe some variables. Cross-tabulation and logistic regression were done to examine the association between dependent and independent variables and significant variables (p-value less than 0.2) were entered into multivariate analysis and adjusted odds ratio (AOR) was seen to check confounding factors. A 95% confidence level and a p-value of less than 0.05 were considered to get statistically significant.

Ethical considerations

Ethical approval was obtained from the research review committee of Debre Berhan University. Written informed consent was obtained from study participants prior to an interview. All the information obtained from each study participant was kept confidential throughout the process of study, and to assure confidentiality the name of the participant was replaced by code. Withdrawal from the study at any point if they wished was assured.

RESULTS

Socio-demographic characteristics

During the study period, there were a total of 381 mothers who gave birth through vaginal deliveries were interviewed with the

response rate 98.4%. The majority, 152 (39.9%) of respondents who gave birth were in the age group of 25-29 years. The average mean age of the respondent was 27.7± 4.2 years and 358 (94.0%) of were married. From the total of respondents, 118 (31.0%) was a government employee. Related to the educational status of the respondents 126 (33.1%) were attend secondary school and 200 (52.5%) were follow orthodox religion (Table 1).

Table 1: Socio-demographics characteristics of the respondents in Akaki Kality sub city Addis Ababa, Ethiopia, 2018 G.C.

Variables	Respondents	Frequency	Percent
Age of respondents (n=381)	20-24	93	24.4
	25-29	152	39.9
	30-34	109	28.6
	35-39	27	7.1
Residence (n=381)	Inside Akaki Kality	260	68.2
	Outside Akaki Kality	121	31.8
Marital status (n=381)	Married	358	94.0
	Single	13	3.4
	Others	10	2.6
Occupation (n=381)	Housewife	101	26.5
	Government employee	118	31.0
	Self-employee	102	26.8
	Merchant	51	13.4
	Student	9	2.3
Education status (n=381)	Illiterates	13	3.4
	1-8 grade	94	24.7
	9-12 grade	126	33.1
	College/university	114	29.9
	Postgraduate	34	8.9
Religion (n=381)	Orthodox	200	52.5
	Muslim	91	23.9
	Protestant	62	16.3
	Catholic	27	7.0
	Others	1	0.3
Family monthly income (n=381)	Less than 1000	36	9.7
	1000-2000	85	22.3
	2001-3000	136	35.7

Pregnancy and delivery characteristics of the respondent

From the total of respondents, 378 (99.2%) respondents were had ANC follow up during their pregnancy time and 152 (39.9%) of the respondent were primiparous. Regarding gestational age of current pregnancy; 75 (19.7%) of them had less than 37-week duration and 328 (86.1%) participants gave birth by spontaneous onset of labor.

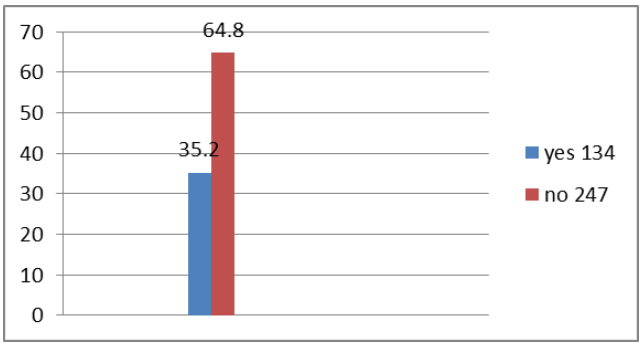

Figure 1: Prevalence of episiotomy practice in Akaki Kality sub city, A.A Ethiopia; 2018 G.C.

Concerning episiotomy practice, 134 (35.2%) were had episiotomy when they gave birth (Figure 1). 77 (57.5%) women who had episiotomy tight perineum during the second stage of the labor was the most common indication of the episiotomy practice (Table 2).

Table 2: Pregnancy and an indication of episiotomy in Akaki Kality, A.A, Ethiopia 2018 G.C.

Variables	Respondents	Frequency	Percent
ANC follow up (nf=381)	Yes	378	99.2
	No	3	0.8
Number of pregnancy (n=381)	Premipara	152	39.9
	Multipara	228	60.1
Gestational age (n=381)	<37 weeks	75	19.7
	37-42 weeks	272	71.4
	>42 weeks	34	8.9
Onset of labor (n=381)	Spontaneous	328	86.1
	Induced	53	13.9
Indication of episiotomy (n=134)	Tight perineum	77	57.5

	Prolonged second stage	17	12.7
	Fetal distress	20	14.9
	Instrumental delivery	15	11.2
	Others	5	3.7
Type of instrumental delivery (n=15)	Vacuum	11	73.3
	Forceps	4	26.7
Presentation (n=381)	Vertex	348	91.4
	Face	15	3.9
	Breech	18	4.7
Duration of second stage (n=381)	<One hour	76	20
	One to two hour	269	70.6
	>Two hour	36	9.4
Birth attendant (n=381)	Midwife	338	88.7
	Doctor	19	5
	HO	20	5.3
	Others	4	1
Newborn condition (n=381)	Alive	378	99.2
	Died	3	0.8
Apgar score at fist minutes (n=381)	0-4	12	3.1
	05-Jul	86	22.6
	08-Oct	283	74.3
Apgar score at fifth minutes (n=381)	0-4	8	2.1
	05-Jul	28	7.3
	08-Oct	345	90.6
New born weight (n=381)	1000-1499	0	0
	1500-2499	42	11
	2500-3999	321	84.8
	>4000	16	4.2

Factors affecting the unmet need for family planning

Episiotomy practice had a significant association with mothers who came from inside Akaki Kality sub city when compared with women's who came from outside the sub-city (around the rural area [AOR= 2.947 (1.321, 6.572)].

Episiotomy practice was more likely associated with primiparae when compared with Multiparous women [AOR=15.031 (6.369, 35.475)].

From 381 respondents episiotomy practice was significantly associated with deliveries whose presentation was face when compared with vertex presentations [AOR= 15.972 (2.289, 111.440)]. Concerning to duration of the second stage of labor with episiotomy practice, there is a significant association when the women stayed more than two h during her second stage of labor when compared with women who stayed less than one h with the practice of episiotomy[AOR=11.167 (2.567, 48.588)].

Regarding birth attendant care provider and episiotomy practice association, episiotomy practice was had more association when the labor was attended by the Doctors as compared with when labor was attended by midwife [AOR=11.187 (1.917, 65.285)].

The practice of episiotomy also had a significant association with newborn weight category this indicates that mothers who gave birth who measure greater than 4000 g newborn vaginaly had more association episiotomy practice as compared with women who gave birth who measure between 1500-2499 g newborn [AOR=[26.343 (26.159, 265.289)] (Table 3).

Table 3: Multivariable analysis result of the dependent variable (episiotomy practice) with independent variables.

Variables	Episiotomy practice		COR (95%)	AOR (95%)	p-value
	Yes (%)	No (%)			
Residence					
Inside Akaki kality	105 (40.4)	155 (59.6)	2.149 (1.323, 3.492)	2.947 (1.321, 6.572)	0.008
Outside Akaki kality	29 (24.0)	92 (76.0)	1	1	
Presentation					

Vertex	115 (33.0)	233 (67.0)	1	1	
Face	13 (86.7)	2 (13.3)	13.170 (2.923, 59.339)	15.972 (2.289, 111.440)	0.005
Breech	6 (33.3)	12 (66.7)	1.013 (.371, 2.768)	1.270 (.254, 6.345)	0.771
Duration of second stage					
<1 h	13 (17.1)	63 (82.9)	1	1	
1 h-2 h	92 (34.2)	177 (65.8)	2.519 (1.318, 4.816)	1.340 (.518, 3.465)	0.547
> 2 h	29 (80.6)	7 (19.4)	20.077 (7.249, 77.872)	11.167 (2.567, 48.588)	0.001
Birth attendant					
Midwife	112 (33.1)	226 (66.9)	1	1	
Doctor	14 (73.7)	5 (26.3)	5.650 (1.985, 16.080)	11.187 (1.917, 65.285)	0.007
HO	6 (4.5)	14 (70.0)	.865 (.324, 2.311)	.372 (.064, 2.151)	0.269
Student	2 (50.0)	2 (50.0)	2.018 (.281, 14.513)	9.252 (.533, 160.471)	0.126
Weight category					
1500-2499 g	7 (16.3)	36 (83.7)	1	1	
2500-3999 g	115 (35.7%)	207 (64.3%)	2.857 (1.232, 6.625)	12.208 (2.772, 53.754)	0.001
=>4000 g	12 (75.0%)	4 (25.0%)	15.429 (3.838,62.030)	26.343 (26.159, 265.289)	0.0001
Number of pregnancy					
Primiparae	102 (66.7%)	50 (33.3%)	12.250 (7.411,20.250)	15.031 (6.369, 35.475)	0.0001
Multipara	32 (14%)	197 (86%)	1	1	

DISCUSSION

The study showed that the prevalence of episiotomy practice among women who give vaginal birth was 134 (35.2%). The result of this study was very close to a previous study done at public health institutions of shire town, north Ethiopia to assess the episiotomy rate and associated factors; Shows that, the proportion of episiotomy practice was 35.4% [13]. The reason for those close results might be studying facilities; this study was conducted at one Hospital and health centers which was similar with a study done at shire town, care providers attitude to perform episiotomy and study time.

This study has a higher prevalence of episiotomy compared to a study done at Mizan Aman General Hospital, at Jimma teaching Hospital, in a tertiary care Centre in Nigeria and in Vietnamese which indicates the prevalence of episiotomy was 30.6%, 25%, 9.3%, and 15.1% respectively[14-17]. The possible reason for this high prevalence might be this study assessed the prevalence of episiotomy in five health institution including one hospital and more than half of the study participant were interviewed from this hospital in which most cases were referred from health centers resulting to high prevalence of episiotomy for different causes health workers (gap for skill training), study area difference and may be due to the country policies towards the selective use of episiotomy.

But this result was low when compared with research done at Addis Ababa Tikur Anbessa Hospital, at public health institutions of Axum Town, in Fatemieh Teaching hospital and a prospective cross-sectional study was conducted in 2013 on the prevalence of episiotomy in primiparous, and related conditions in Turkey. The result showed that the prevalence of episiotomy among participant was 40.2%, 41.44%, 41.5%, and 56.3% respectively [12,18-20]. This difference may be explained by the difference in study area and time, institutions difference which provide the service, due to the increased emphasis on the restrictive use of episiotomy at the institution in line with evidence-based recommendations and an increment of quality service through training.

Episiotomy practice was more likely associated with primiparae mothers when compared with Multiparous women [AOR=15.031 (6.369, 35.475)]. This result was consistent with the study done, at shire town which indicates primiparae women were 2.124 times more likely to be performed episiotomy than

multipara [2.124 (1.140, 3.935) [13]. This may be most of the time primipara women were prone to perineum tight which is one indication of episiotomy and old recommendation of routine episiotomy in primiparous women's performed by many health professionals, might still have an influence in the indication of this procedure for those women's.

Episiotomy practice was more significantly associated with face presentation when compared with vertex presentation AOR=[15.972 (2.289, 111.440)]. This result was consistent with a cross-sectional study done at Axum public health institutions and a prospective cohort study done in Zaria Nigeria [18-20]. This can be justified by fetal malpresentation may results instrumental and difficult deliveries leads to the higher practice of episiotomy in these centers and similarly in other centers.

Concerning to duration of second stage of labor out of the total respondents 269 (70.6%) of women who gave birth during the study period stay one to two hour during their second stage of labor, 76 (19.9%) were stay less than one hour and 36 (9.4%) were stay more than two h to give birth during their second stage of labor. When we compare this result with a study was done at shire town on episiotomy practice and associated factors 164 (64.9%) stayed for less than one h, 134 (32.9%) stayed for 1-2 h, and 9 (2.2%) stayed greater than 2 h [13]. There was significant association when the women stayed more than two h during her second stage of labor when compared with women who stayed less than one h with the practice of episiotomy [AOR=11.167 (2.567, 48.588)]. The difference may be a time of the study, study area, maternal and fetal condition [13].

Episiotomy practice was had more association when the labor was attended by the Doctors as compared with when labor was attended by midwife [AOR=11.187 (1.917, 65.285)]. This result was a similar association with the study done at Axum tow and Nigeria [16,18]. The reason might be most of the time doctors attend abnormal labor so they assist the labor process with instrumental labor and they perform episiotomy most of the time.

The practice of episiotomy also had a significant association when newborn weight was greater than 4000 g as compared with women who gave birth between 1500-2499 g newborn [AOR=26.343 (26.159, 265.289)]. This result was not significant at the study done at Nigeria and Axum town [16,18]. This difference might be due to most of the respondent's newborn weight were below 4000 g and between the normal range as shown from the results, study area and time difference.

Strengths and limitations of this study

- This study was conducted in five health institutions that are owned by a public that could make it more representative.
- There could also be a possibility of recall biases during the determination of the age of the mother and level of her income.
- The cross-sectional nature of the study is not able to assess variables related to postoperative outcome.

CONCLUSION

The prevalence of episiotomy in this study area was still high as compared with WHO recommendation and other research done on the same topic and its more associated with 20-24 age group of respondent's, urban area, primiparity, face presentation, duration of second stage of labor which stayed greater than two h, birth attendant (when the Doctors took delivery) and weight of newborn which were greater than 4000 g.

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