



Magnitude of episiotomy practice and associated factors among Women who gave birth at Health Facilities in Asella Town: A Cross-Sectional Study, Oromia, Ethiopia, 2025.

By: Dr. Gadisa Berhane (MD, Resident of Gynecology and Obstetrics)

Advisors: Dr. Hussein Kedir (MD, Assistant Professor of OB-GYN and urogynecology sub-specialist)

Mr. Mesfin Tafa (MPH, Assistant professor of Epidemiology)

A Research thesis to be submitted to the Department of Gynecology and Obstetrics, Arsi University, in partial fulfillment for the requirement of specialization in Obstetrics and Gynecology.

January, 2026, Asella, Ethiopia

**ARSI UNIVERSITY COLLEGE OF HEALTH SCIENCE DEPARTMENT
OF GYNECOLOGY AND OBSTETRICS**

Name of an investigator:	Dr. Gadisa Berhane, MD
Name of advisors:	1. Dr Hussen Kedir 2. Mr Mesfin Tafa
Title of the research proposal:	Magnitude of episiotomy practice and associated factors among Women who gave birth at Health Facilities in Asella Town
Duration of the project:	August 5 to December 15, 2025
Study area:	Asella teaching and referral hospital, and Tokuma primary Hospital
Total cost of the project:	55,750.00 birr
Address of an investigator:	phone:0931527162 e-mail: gadisaberhane@gmail.com
Address of principal advisor	phone: 0941375807 e-mail: guurii@yahoo.co.uk
Address of Co- advisor:	phone: +251910867389 e-mail: mesfintafa2011@gmail.com

ASSELA, ETHIOPIA, 2026

Abstract

Background: An episiotomy is an intended incision of the perineum to enlarge the vaginal opening for birth. Societies such as WHO, ACOG, and FIGO recommend restrictive episiotomy practice with WHO recommending a rate of less than 10%. Despite this recommendation, the finding of certain study shows the prevalence of practice is high in the country. This study will determine the magnitude of episiotomy practice and associated factors in health facilities in Asella town.

Methods: Institution based cross-sectional study design was used. Data were collected using a semi-structured questionnaire administered by trained personnel using kobo toolbox then exported, cleaned and analyzed using Stata 14 statistical software. Descriptive statistics, frequency distribution tables, and graphs were used to present the data. Bivariate and multivariate logistic regression model was used to see relationships between dependent and independent variables. A p-value < 0.05 will indicate statistical significance.

Results: Among 385 women who underwent vaginal delivery, the prevalence of episiotomy was 61.04%, with a significantly higher rate observed among primipara (83.06%) compared to multiparous women (41.09%). Multivariable logistic regression identified primiparity as the strongest predictor, with these women having 7.93 times higher odds of receiving an episiotomy (AOR = 7.93; 95% CI: 4.76–13.20) than multigravida women. Other independent predictors included a maternal BMI >25 kg/m² (AOR = 4.81; 95% CI: 2.11–10.97), high household income (>15,000 ETB) (AOR = 2.83; 95% CI: 1.34–5.96), and deliveries managed by medical interns (AOR = 2.71; 95% CI: 1.24–5.90).

Conclusion: The prevalence of episiotomy in this study was 61.04%, which is higher than the recommended rate by WHO (10%). Multivariable analysis identified primi-parity, high maternal BMI, high household income, and the profession of the birth attendant as independent predictors of the procedure. The findings of the study indicate that episiotomy practice in the study area remains high and aligned with a routine approach than the evidence-based restrictive approach recommended by the WHO.

ACKNOWLEDGEMENTS

First, I am profoundly grateful to the Almighty for the strength and perseverance provided throughout my life and particularly during the completion of this research.

I extend my sincere gratitude to Arsi University for granting me the opportunity to conduct this study in partial fulfillment of my specialization in Obstetrics and Gynecology. My appreciation also goes to the Department of Obstetrics and Gynecology and the Department of Public Health for their institutional support and invaluable academic guidance.

I am deeply indebted to my research advisors, Dr. Hussen Kedir and Mr. Mesfin Tafa, whose unwavering mentorship, expert guidance, and constructive critiques significantly enriched this work. I would like to acknowledge all study participants for their voluntary participation in this study. I also like to express my deepest gratitude for my data collectors.

Finally, I wish to express my heartfelt thanks to my family for their enduring encouragement and support throughout my academic journey.

ACRONYMS / ABBREVIATIONS

ACOG	American College of Obstetrics and Gynecology
ANC	Antenatal Care
AOR	Adjusted odd ratio
APH	Antepartum hemorrhage
ARTH	Asella Referral and Teaching Hospital
CD	Caesarian delivery
CI	Confidence interval
FIGO	International Federation of Gynecology and Obstetrics
GGMP	Great grand multiparous
GMP	Grand multiparous
IAI	Intra-amniotic infection
ICU	Intensive care unit
MCH	Maternal and child health
MOH	Ministry of health
MP	Multiparous
NRFHRP	Non-reassuring Fetal heart rate pattern
OA	Occipito anterior
OP	Occipito-posterior
OPD	Outpatient department
PE	Preeclampsia
PP	Primiparous
PPH	Post partal hemorrhage
SPHMMC	Saint Paul Hospital Millennium Medical College
TPH	Tokuma primary Hospital
UK	United Kingdom
USA	United states of America
VCT	Voluntary Counseling and Testing
WHO	World Health Organization

List of figures

<i>Figure 1: Conceptual framework developed from different literature to determine factors associated with episiotomy practice.</i>	<i>10</i>
<i>Figure 2: Magnitude of episiotomy practice at Health facility in Asella Town, Oromia, Ethiopia, August 5/2025 – December 15/2025 (n=385).....</i>	<i>24</i>
<i>Figure 3: Magnitude of episiotomy practice by Parity level at Health facility in Asella Town, Oromia, Ethiopia, August 5/2025 – December 15/2025 (n=385).....</i>	<i>24</i>
<i>Figure 4: Rate of episiotomy performance by mode of delivery at Health facility in Asella Town, Oromia, Ethiopia, August 5/2025 – December 15/2025 (n=385).....</i>	<i>25</i>

List of tables

<i>Table 1: Distribution of Participants by Socio-demographic Characteristics at Health facility in Asella Town, Oromia, Ethiopia, August 5/2025 – December 15/2025 (n=385).....</i>	<i>18</i>
<i>Table 2: Distribution of Participants by Obstetric factors at Health facility in Asella Town, Oromia, Ethiopia, August 5/2025 – December 15/2025 (n=385).....</i>	<i>20</i>
<i>Table 3: Distribution of Participants by maternal and fetal condition at Health facility in Asella Town, Oromia, Ethiopia, August 5/2025 – December 15/2025 (n=385)</i>	<i>21</i>
<i>Table 4: Distribution of Participant by birth attendants at Health facility in Asella Town, Oromia, Ethiopia, August 5/2025 – December 15/2025 (n=385).....</i>	<i>23</i>
<i>Table 5: Bivariate and multivariable logistic regression of factors associated with episiotomy practice among women who gave birth in Health Facilities of Asella Town, Oromia, Ethiopia, August 5/2025 – December 15/2025 (n=385).....</i>	<i>26</i>

Contents

Summary	Error! Bookmark not defined.
ACKNOWLEDGEMENTS	iv
ACRONYMS / ABBREVIATIONS.....	v
List of figures	vi
List of tables	vii
Contents	viii
1.1 Background of the Study	1
1.2 Statement of the problem	3
1.3 Significance of the study.....	5
2. LITERATURE REVIEW	6
2.1 Magnitude of episiotomy practice.....	6
2.2 Factors associated with episiotomy practice	7
2.2.1 Sociodemographic Factors	7
2.2.2 Maternal and fetal factors	8
2.2.3 Obstetrics factors.....	9
2.2.4 Birth attendant related factors	9
3. OBJECTIVES OF THE STUDY	11
3.1 General Objective	11
3.2 Specific Objectives	11
4. METHODS AND MATERIAL	12
4.1 Study area.....	12
4.2 Study period	12
4.3 Study Design.....	13
An institutional cross-sectional study design was employed to assess the magnitude of episiotomy practices and associated factors.	13
4.4 Source Populations.....	13
4.5 Target populations	13
4.6 Study populations.....	13

4.7 Inclusion and exclusion criteria	13
4.7.1 Inclusion criteria	13
4.7.2 Exclusion criteria	13
4.8 Sample size determination	13
4.9 Sampling techniques	14
4.10 Study Variables	14
4.10.1 Dependent Variables	14
4.10.2 Independent Variables	14
4.11 Data collection procedures	15
4.12 Data quality assurance	15
4.13 Operational definitions	15
4.14 Data processing and analysis	17
4.15 Dissemination of results	17
4.16 Ethical consideration	17
5. Results	18
5.1 Socio-demographic characteristics of the study participants	18
5.2 Obstetric factors characteristic of the study population	19
5.3 Baseline maternal and fetal condition of the study participant	21
5.4 Baseline characteristics of birth attendants	22
5.5 Magnitude of Episiotomy Practice	23
5.6 Analysis of Factors Associated with Episiotomy	25
6. DISCUSSION	27
7. Conclusion	30
8. Recommendations	30
9. Strengths and Limitations	31
10. References	32
Declarations	35

1. INTRODUCTION

1.1 Background of the Study

An episiotomy is an intended incision of the perineum to enlarge the vaginal opening for the delivery of the fetus (1). It is most commonly practiced procedures in obstetrics done to incapacitate the vulvar outlet and facilitate delivery (2). Dubois reported the first Medio-lateral perineal incision in France in 1847 (3). The procedure was implemented in obstetric practice without reliable scientific proof of its potential advantages (4). Before 1870, episiotomy only be considered an appropriate elective response to some obstetric emergencies to reduce perineal tears, and its practice started to become frequent with the introduction of asepsis by a physician like Lister (5).

The widespread adoption of routine episiotomy in countries such as the USA, UK, and Canada followed a shift in the conversation about perineal incisions in the USA, influenced by prominent figures like Pommeroy (1918) and DeLee (1920), who advocated for the generalization of episiotomy(5). Thus, the perineum incision became a routine procedure used in 84 percent of births in the 1950s (6).

The old thought about the practice of episiotomy is that it decreases the risk of 3rd and 4th-degree perineal tears. Nowadays, except for nulliparous women with instrumental delivery, researchers found that episiotomy doesn't decrease the risk of severe perineal injury (7).

In modern obstetrics, routine episiotomy is implied as an obstetrics violence especially when a woman's perineum is cut without her knowing she is about to be cut, understanding of its necessity and possible complication for which she agrees and provides informed consent (8).

Different societies like the World Health Organization (WHO), the American College of Obstetrics and Gynecology (ACOG), and the International Federation of Gynecology and Obstetrics (FIGO) recommend restrictive episiotomy practice, even though it does not suggest its particular rate, except WHO who initially suggested rate of less than 10%(1, 9, 10)

The rate of episiotomy varies across continents and countries with rates ranging below 10% (the lowest) in Sweden and approaching 100% (the highest) in Taiwan for both primipara and multipara women(11) According to a systematic review and meta-analysis done by Deyaso et al, the

magnitude of episiotomy during spontaneous vaginal delivery in Ethiopia was at 45.11%, similar to the prevalence in Nigeria at 41.4%, Iran at 41.5%, and China at 41.7%(12-14) Perineal injury, whether occurring from tear or episiotomy, can lead to various undesired outcomes, such as chronic perineal pain, pain during intercourse (dyspareunia), pelvic floor injury, wound site infection, decreased libido, poor quality of life, marital dispute, and urinary incontinence post-delivery(15-17).

There is ongoing debate regarding the advantages and disadvantages of performing episiotomies, with a global push to reduce their use to lessen associated adverse effects. Understanding the extent of episiotomy practices is essential for developing evidence-based guidelines and policies that encourage careful application of this procedure (18-20).

1.2 Statement of the problem

Despite recommendation by different organizations like FIGO, WHO and Ethiopian MOH against routine practice of episiotomy the trend is still high in most countries including Ethiopia (12, 18). The definition of restrictive use was to avoid episiotomy unless indicated for fetal well-being, and medically necessary or not to perform an episiotomy to avoid a laceration (10). The movement against routine episiotomy emerged in the late 1970s, in the USA, Canada, and the UK challenging the standard practice of routine episiotomy which was driven by publications aimed at the general public questioning the actual benefits of making an incision in the perineum(19). The first professional criticism of episiotomy emerged in 1983, by Thacker and Banta who pointed out that episiotomy was linked to heightened postpartum pain, dyspareunia, infections, swelling, and greater blood loss; additionally, they also underscored the absence of supporting evidence for routine episiotomy practices and stressed the importance of assessing it through evidence-based medicine(4). The World Health Organization issued its first recommendation against routine episiotomy in 1996, following several randomized controlled trials that demonstrated no advantages to the routine practice and suggested limiting its use to fewer than 10 percent of deliveries(20).

The “Cochrane database of systematic reviews” suggests that a selective or restrictive approach to episiotomy may lead to a decrease in severe perineal or vaginal injuries, particularly third and fourth-degree tears, when compared to routine or liberal episiotomy practices (RR 0.70, 95% CI 0.52–0.94) (21, 22) This effect is more pronounced when the extent of episiotomy exceeds 30% between study groups (RR 0.55, 95% CI 0.38–0.81), and it does not appear to increase the risk of other short-term or long-term negative outcomes, such as blood loss during delivery, low Apgar scores at five minutes, perineal infections, the need for perineal suturing (excluding episiotomy repairs), perineal pain, dyspareunia, urinary issues, or genital prolapse(21, 22).

The adoption of this principle (restrictive episiotomy) has led to a decline in the prevalence of episiotomy in various countries. For instance, in the United States, the rate dropped from 25% in 2004 to 9.4% in 2011; in France, it fell from 58% in 1996/1997 to 9.3% in 2017; and in China, it decreased from 73.3% in 2006 to 26.8% in 2007/2008(2, 6). Ethiopia has embraced this guideline in line with WHO recommendations and has been training health workers using a manual developed by the Ministry of Health over the past decades (23). This manual specifies that

episiotomy should only be considered in cases of complicated vaginal delivery (such as breech presentations, shoulder dystocia, or the use of forceps or vacuum), scarring from female genital cutting, or poorly healed third or fourth-degree tears, as well as in situations of fetal distress(23). Despite this recommendation the prevalence of episiotomy practice is high in Ethiopia; according to one systematic review and meta-analysis from 13 studies on total of 6,404 woman the estimated overall pooled prevalence rate of episiotomy in Ethiopia was 42.75% (61.45% among primiparous women and 30.47% among multiparous women) (12).

A nationwide cross-sectional survey of episiotomy practices in China revealed that over half of the episiotomies performed on nulliparous and about a quarter on parous women are carried out without any medical justification(15). Most of the consequences of episiotomy affect the parturient, greatly impacting her quality of life, leaving her with an unpleasant childbirth memory, risk of PPH, Wound site infection, Vulvar gapping, dehiscence, chronic perineal pain, dyspareunia, and increased risk of 3rd and 4th-degree tear (24). A national health facility report in Ethiopia indicated that episiotomy alone had caused 9% of primary postpartum hemorrhage and 8% of maternal sepsis (25). In addition, routine episiotomy practice increase cost both for the woman and result in consumption of scarce resource of the health institution; according to study in Argentina for each low vaginal birth about US\$20.21 average reduction in provider cost was observed with restrictive episiotomy practice (26).

1.3 Significance of the study

I considered conducting this research after encountering multiple patients during my residency who presented with grave complications from episiotomy, particularly during my urogynecology attachment; where in a single month two women underwent surgery for vulvar gapping, both of whom were facing marital disputes and embarrassment, which made me curious to know our alignment as institution to restrictive practice recommended by evidence. Implementing a restrictive episiotomy policy is only feasible through localized studies that pinpoint the sociocultural and institutional factors underlying high prevalence. Furthermore, Deyasu et al. highlight a significant research gap in Ethiopia, noting that as of 2023, there is a complete lack of data regarding the prevalence of episiotomies in the Oromia, Somali, Afar, Gambella, and Benishangul-Gumuz regions (12). This study determined the magnitude of episiotomy practice and its associated factors in Asella Referral and Teaching Hospital, and Tokuma Primary Hospital. This study establishes a critical empirical baseline to monitor the systematic shift toward restrictive episiotomy protocols. By identifying current trends, the findings will facilitate the reduction of non-evidence-based interventions, thereby mitigating both acute and chronic postpartum complications. Furthermore, the dissemination of these results will contribute localized data from the Arsi Zone, serving as a representative indicator for the Oromia Region and strengthening the accuracy of national prevalence estimates.

2. LITERATURE REVIEW

2.1 Magnitude of episiotomy practice

The prevalence of episiotomy varies significantly on a global scale. For instance, the rate was reported at 4.6% in the United States in 2022, whereas in Turkey, the prevalence reached 52%, with a disproportionate occurrence among primiparous women (93.3%) compared to multiparous women (30.2%) (11, 27). The prevalence of performing an episiotomy was 51.3 % among 12,645 births that occurred over five years in Brazil (28).

Data from a national survey on Chinese obstetric practices indicates an episiotomy prevalence of 41.7% among first-time mothers, whereas the rate for subsequent deliveries was notably lower at 21.5% (14). According to population based cohort study in six Palestinian hospitals, the overall episiotomy rate was 28.7%: 78.8% for women with first vaginal birth and 5.9% for parous women (29). According to a study in Afghanistan, a total of 1,288 women had vaginal delivery during the study period of which 23.76% delivered using an episiotomy (30). According to a systematic review and meta-analysis by Woldegeorgis et al. pooled prevalence of episiotomy practices among laboring mothers in Africa was 41.7% for all vaginal deliveries, with prevalence ranging from 35.01% in western Africa to 50 % in central Africa(31).

According to PF Pebolo et al., the prevalence of episiotomy in Ugandan public hospitals was 73% (32). According to a study by Innocent N et al., the rate was 20.4% in the Democratic Republic of the Congo (33). According to recent research in Ghana by Azu, T.D., Abraham, S.A., Doe, P.F. et al., 49.7% of women had an episiotomy (34). Another researcher from Burkina Faso found the overall rate of episiotomy to be 22% (35).

In Ethiopia, the prevalence of episiotomy practice ranges from 68%(80.66% for Primiparous to 53.72% for multiparous) according to a study by Fikadu et al., at Arba Minch General Hospital (southern region) to 35.2% according to Worku et al. in Public Health Institutions of Akaki Kality (Addis Ababa) (36, 37). According to a study by Tefera et al., the prevalence of episiotomy practice at Saint Paul's Hospital Millennium Medical College (Addis Ababa) was 65.4%(84.2% for primigravid and 44.2% for multigravida) (38). In 2023, Aragaw et al., a research team from Gondar University, conducted a systematic review and meta-analysis; they found that the overall

prevalence rate of episiotomy among women who had vaginal deliveries in Ethiopia was 42.75%, with rates of 61.45% for first-time mothers and 30.47% for those who had given birth multiple times (39).

2.2 Factors associated with episiotomy practice

2.2.1 Sociodemographic Factors

Several studies have examined the association between maternal sociodemographic characteristics and episiotomy practice. Austad KE et al. and Fikadu et al. reported that maternal age below 18 years and above 35 years was significantly associated with higher odds of episiotomy, indicating that both adolescent and advanced maternal age groups are more likely to undergo the procedure (36, 40). Similarly, Urmee RJ et al. and Howden NLS et al. found that women at the extremes of reproductive age were more frequently subjected to episiotomy compared with those in the middle age categories (41, 42).

Maternal education has also been identified as a relevant factor. Carvalho CCM de et al. and Austad KE et al. reported that women with college-level education and above had higher rates of episiotomy compared with those with lower educational attainment (40, 43). In some of these studies, higher education was associated with delivery in facilities where episiotomy was more commonly practiced, which may partly explain the observed association. Fikadu et al. similarly noted that maternal educational status was significantly related to episiotomy practice in their cohort (36).

Fikadu et al. and Urmee RJ et al. found that being a housewife and being married were associated with increased likelihood of episiotomy (36, 41). Howden NLS et al. reported that white race and low family income were significantly associated with higher episiotomy rates in their study population (42).

In summary according to study by Austad KE et al., Carvalho CCM de et al., Howden NLS et al., Fikadu et al., and Urmee RJ et al., maternal age under 18 and over 35 years, maternal education of college and above, being housewife occupants, being married women, white race and low family income were associated with episiotomy practice(36, 40-43).

2.2.2 Maternal and fetal factors

Multiple maternal and fetal factors have been reported as predictors of episiotomy. Austad KE et al., Carvalho CCM de et al., and Fikadu et al. identified fetal macrosomia, defined as birth weight $\geq 4,000$ g, as significantly associated with increased episiotomy use (36, 40, 43). Clesse et al. and Golzareh Parvin et al. similarly found that higher birth weight categories were correlated with higher episiotomy rates in their respective populations (30, 44).

Gestational age and maternal clinical status at delivery have also been highlighted. Carvalho CCM de et al. and Clesse et al. reported that post-term pregnancy was associated with higher episiotomy rates compared with term gestations (43, 44). In addition, Austad KE et al. and Fikadu et al. found that women diagnosed with medical conditions at the time of delivery; such as hypertensive, Cardiac disease, and obstetric complication like APH were more likely to undergo episiotomy than those without such conditions (36, 40). High maternal body mass index ($\text{BMI} > 25 \text{ kg/m}^2$) was also identified as a factor associated with increased episiotomy practice in studies by Diallo et al., Goueslard et al. and Shmueli et al. (45-47). In contrast Fikadu et al. reported low BMI ($< 25 \text{ kg/m}^2$) to be associated with heightened episiotomy practice (36).

Intrapartum and reproductive history variables have further been associated with episiotomy. Carvalho CCM de et al. and Clesse et al. reported that delivery under epidural analgesia was significantly associated with higher episiotomy rates (43, 44). Fikadu et al. found that short birth spacing of less than two years was linked to increased episiotomy use (36). Low Apgar score at the first and fifth minute was reported by Goueslard et al. and Shmueli et al. as being more frequent among neonates born after episiotomy (45, 46). Moreover, a history of previous perineal tears and prior episiotomy during the most recent delivery were identified by Austad KE et al., Fikadu et al., and Golzareh Parvin et al. as important predictors of repeat episiotomy in subsequent births (30, 36, 40).

To summarize according to study by different researchers like Austad KE et al., Carvalho CCM de et al., Clesse et al., Golzareh Parvin et al., Fikadu et al., Goueslard et al., Diallo et al., and Shmueli et al fetal macrosomia ($\text{BW} \geq 4,000 \text{ g}$), being post-term at delivery, being diagnosed with medical disease at time of delivery, having high body mass index ($> 25 \text{ kg/m}^2$), delivery by epidural analgesia, birth spacing of less than two years, low Apgar score at first minute, having history of previous perineal tears, having prior episiotomy during their most recent delivery were

identified to be some of maternal and fetal factors associated with heightened episiotomy practice (30, 36, 40, 43-47)

2.2.3 Obstetrics factors

Obstetric characteristics have been extensively studied in relation to episiotomy practice. Urmee et al., Fikadu et al., Clesse et al. and Carvalho CCM de et al. reported that primiparity was strongly associated with increased episiotomy rates compared with multiparity (36, 41, 43, 44). Twin pregnancy was also identified as a factor associated with higher episiotomy use in studies by Urmee et al. and Goueslard et al. (41, 45). Urmee et al. and Deyaso et al. found that non-reassuring fetal heart rate patterns (NRFHRP) were significantly associated with episiotomy (12, 41).

Golzareh Parvin et al. and Clesse et al. reported that malpresentations such as face presentation and persistent occipito-posterior position were more frequently managed with episiotomy (30, 44). Bekele H et al. and Fikadu et al. identified previous cesarean section scar and prolonged second stage of labor as additional obstetric factors associated with increased episiotomy practice (36, 48).

Mode of delivery and labor interventions are also important determinants. Carvalho CCM de et al. and Clesse et al. reported that induction of labor with oxytocin was associated with higher episiotomy rates compared with spontaneous labor (43, 44). Assisted breech vaginal delivery and operative vaginal deliveries (vacuum or forceps) were consistently associated with episiotomy in studies by Golzareh Parvin et al., Goueslard et al., and Shmueli et al. (30, 45, 46).

2.2.4 Birth attendant related factors

Birth attendant characteristics have also been shown to influence episiotomy practice. Austad KE et al. and Urmee et al. reported that providers with fewer years of clinical experience were more likely to perform episiotomy compared with more experienced colleagues (40, 41). Howden NLS et al. and Woldegeorgis BZ et al. also documented a significant association between limited years of practice and increased likelihood of episiotomy (31, 42).

The professional category of the birth attendant has been another important factor. Howden NLS et al. and Austad KE et al. reported that deliveries attended by obstetricians had higher episiotomy rates than those attended by midwives (40, 42). Woldegeorgis BZ et al. found similar patterns, with midwife-attended births showing lower episiotomy use compared with physician-attended births

(31). Urmee et al. also noted that the profession of the birth attendant was significantly associated with episiotomy practice in their cohort (41).

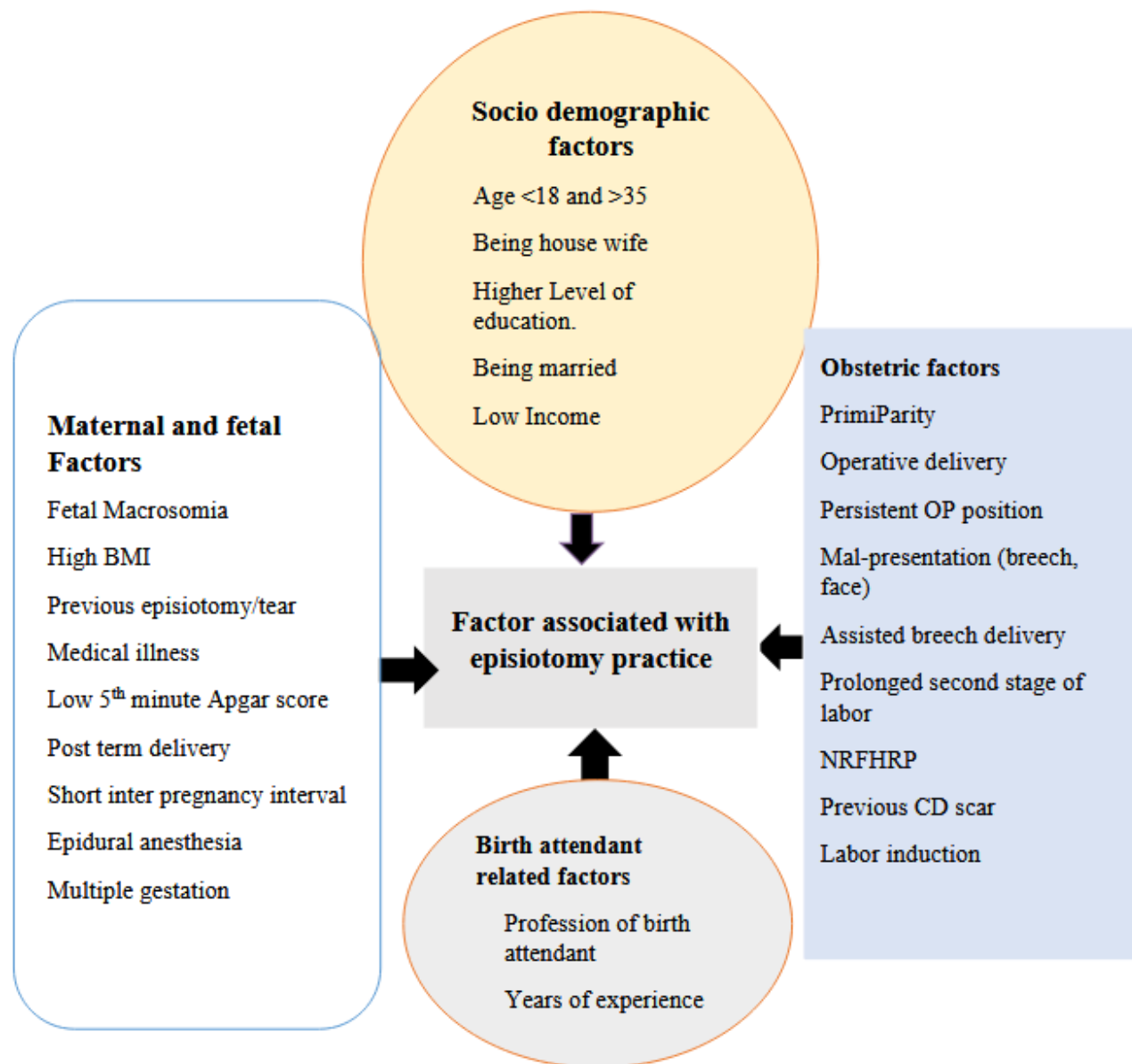


Figure 1: Conceptual framework developed from different literature to determine factors associated with episiotomy practice.

3. OBJECTIVES OF THE STUDY

3.1 General Objective

To assess the magnitude of episiotomy practices among women who gave birth at Asella health facilities from August 5 /2025, to December 15/2025, and to identify the associated factors influencing the use of episiotomy during vaginal deliveries.

3.2 Specific Objectives

To determine the prevalence of episiotomy practice among women who gave birth at ARTH and TPH during the study period.

To determine factors associated with episiotomy practice among women who gave birth at ARTH and TPH during the study period.

4. METHODS AND MATERIAL

4.1 Study area

The study was conducted at Asella Teaching and Referral Hospital and Tokuma Primary Hospital, which are located in Asella town, approximately 175 km southeast of Addis Ababa, the capital city of Ethiopia, serving communities from 28 districts and two town administrations(49).

The hospital was established in 1964 G.C. and Rebuilt in 1992 G.C. with a capacity of 250 beds. Starting from 2014, the hospital was re-established under Arsi University as a third-generation public university with more than 1300 staff. Internal medicine, surgery, obstetrics and gynecology, Emergency, and pediatrics are the major departments in Asella Referral and Teaching Hospital. The hospital provides care for South-eastern Ethiopia with a catchment population of about 5 million people. The hospital also has an adult Intensive Care Unit (ICU) and a general emergency Outpatient Department (OPD). Additionally, it offers various services, including different outpatient departments (OPDs), a Maternal and Child Health (MCH) unit, Voluntary Counseling and Testing (VCT), Antiretroviral Therapy (ART) services, major operating rooms, and a minor operating room(49).

The hospital provides 24-hour delivery care and abortion services. The obstetrics and gynecology department is staffed by midwives, GPs (General Practitioners), around 15 obstetricians and gynecologists, 2 urogynecologists, and 40 residents from different batches in the obstetrics and gynecology department(50).

Tokuma Primary Hospital (TPH) has recently been upgraded from Asella Health Center and is located about 1.9 km northeast of ARTH. The hospital has 96 staff members, including 8 midwives and one IESO. It also hosts obstetricians and OBGYN residents from the ARTH OBGYN department. TPH features a general emergency outpatient department (OPD), various outpatient departments (OPDs), a maternal and child health (MCH) unit, voluntary counseling and testing (VCT), and a functional operating room theatre.

4.2 Study period

The study were conducted from August 5 /2025, to December 15/2025.

4.3 Study Design

An institutional cross-sectional study design was employed to assess the magnitude of episiotomy practices and associated factors.

4.4 Source Populations

All pregnant mothers who gave birth vaginally at Asella referral and teaching hospital, and Tokuma primary hospital from August 5 /2025, to December 15/2025.

4.5 Target populations

All mother who gave birth vaginally at Asella referral & teaching hospital, and Tokuma primary Hospital from August 5 /2025 to December 15/2025.

4.6 Study populations

All woman who gave birth vaginally assisted with episiotomy at Asella referral and teaching hospital, and Tokuma primary Hospital from August 5 /2025 to December 15/2025.

4.7 Inclusion and exclusion criteria

4.7.1 Inclusion criteria

Women who gave birth vaginally at ARTH and TPH during the study period.

Women who consent to participate in the study.

4.7.2 Exclusion criteria

Women who had cesarean deliveries.

Women who refused to participate

4.8 Sample size determination

The sample size was determined using a single population proportion formula with the following assumptions: using proportion of 65.4% from a study done at SPHMMC, a precision level of 5%, and a critical value of 1.96 corresponding to a 95% confidence level (51).

$$n = \frac{(z_{\alpha/2})^2 p(1-p)}{d^2} = \frac{(1.96)^2 0.65(1-0.65)}{0.05^2} = \sim 350$$

Then, after adding contingency for non-responders (10%), the total sample size calculated for the study were 385.

4.9 Sampling techniques

Systematic random sampling method were employed to select the sample for the study. The unique medical record number of women who gave birth were obtained from the registration book and used to create the sampling frame. The total number of women who gave birth during the study period were divided by the total sample size (385) to obtain the fixed periodic interval value (K-value). The first study participant were selected by the lottery method, and then the next study participant were identified systematically in every K interval until the required sample size is achieved. Face-to-face interviews of the mother with pretested questionnaires were carried out after at least 2hr of delivery and before discharge from Hospital. The supplemental information were gathered from chart reviews or by interviewing attending physician.

4.10 Study Variables

4.10.1 Dependent Variables

Magnitude of episiotomy practice

4.10.2 Independent Variables

Sociodemographic factors like Age, residence area, income, marital status, religion, educational level

Obstetric and gynecologic factors like Parity, operative delivery, mal-presentation, malposition, previous episiotomy scar, labor induction, previous CD scar, presence of obstetric complications (PE,APH, IAI), and duration of the second stage of labor.

Physician factors like level of profession, years of experience, Knowledge of episiotomy practice

Maternal and fetal factors like Macrosomia, post-term pregnancies, medical disease at time of delivery, body mass index $> 25 \text{ kg/m}^2$, epidural analgesia, birth spacing of less than two years, low Apgar score at first minute, history of previous perineal tears, prior episiotomy during their most recent delivery

4.11 Data collection procedures

Data were collected using a structured and pre-tested questionnaire from consenting mothers. To ensure prompt data collection, all intern doctors, residents, midwives, and clinical nurses were instructed to notify the principal investigator upon the admission of a mother for delivery.

Trained 10 medical interns supervised by trained junior residents working at labor and delivery unit of both institutions were responsible for gathering the data. They collected the necessary information from the mothers by Face-to-face interviews and chart review during their stay.

After delivery, the data collectors have reviewed the delivery summary, and logbooks, if required, to investigate the outcomes accurately.

4.12 Data quality assurance

To assure the quality of data, training was given to data collectors and supervisors on the objective of the study for a minimum of 2 days. A pre-test was done on 5% of the sample size at Selale Comprehensive Specialized Hospital before the actual data collection, to see for the accuracy of responses, language clarity, and appropriateness of the tools. Interview questions were revised, edited, and those found to be unclear were modified after pretest is conducted. The data collectors were closely monitored by the principal investigator daily during the process and collected data were cleared by the investigator on a daily basis during data collection.

The questionnaire will be prepared in English and Afan oromo using kobo toolbox and the data collector will be trained to understand each question for further elaboration in both languages during interview.

4.13 Operational definitions

Episiotomy

A surgical procedure involving a controlled incision of the perineum and vulva performed during childbirth to widen the vaginal opening and expedite the delivery of the newborn (52)

Prolonged Second Stage of Labor

Defined as more than 3 hours of pushing in nulliparous individuals and 2 hours of pushing in multiparous individuals (53).

Fetal macrosomia

Estimated fetal weight of $\geq 4,000$ g regardless of the fetal gestational age (54).

House hold income class

Households were classified based on their monthly income generation in the Oromia region, utilizing thresholds adapted from the Ethiopian Statistics Service (ESS) and contemporary living income benchmarks. Earners were categorized into: low income ($< 8,500$ ETB), Middle Income (8,501–15,000 ETB), and High Income ($> 15,000$ ETB) (55, 56).

Parity

Parity is determined by the number of pregnancies reaching the age of viability (57).

Nulliparity: - Women who has never given birth before (57).

Primiparity: -A woman who has been delivered only once of a fetus or fetuses born alive or dead with an estimated length of gestation of above the age of viability (57)

Multiparity: - woman who has completed two or more pregnancies to the age of viability (57)

Gestational Age

The length of pregnancy, measured in weeks and days, from the first day of the mother's last menstrual period (LMP) and early US (57).

Early US: - is U/s measurement whom aggregate age is less than 24 wks. (57).

Low Apgar score: A low Apgar score refers to a newborn baby with an Apgar score of less than seven at 1 and 5 minutes after birth (57).

Mal-presentation;- Presentation of fetal presenting part other than Vertex presentation (57).

Malposition: - Position of fetal head other than occipito-anterior position (57).

Perineal tear: - unintended laceration of vulva and vagina during child birth (57).

4.14 Data processing and analysis

The data were collected using kobo toolbox, exported to Stata 14 statistical software then cleansed and analyzed. Descriptive statistics and numerical summary measures were utilized to present the data through frequency distribution tables and graphs. Univariate analysis were employed to examine the relationship between the outcome variable and independent variables. Variables with a p-value of ≤ 0.2 in the univariate analysis were included in a multivariate logistic regression model. Adjusted odds ratios (AOR) and confidence intervals (CI) were used to control for potential confounding factors. Variables with a p-value < 0.05 were considered statistically significant. To ensure the validity of the multivariable model, multi-collinearity was assessed using the Variance Inflation Factor (VIF). Model fitness was evaluated using the Hosmer-Lemeshow goodness-of-fit test, and the predictive power of the model was determined using the Area under the Receiver Operating Characteristic (ROC) curve.

4.15 Dissemination of results

The collected data were analyzed, and from the analysis, significant conclusions and recommendations are drawn. The research findings will be presented to the Department of Gynecology and Obstetrics and the Department of Public Health. Additionally, the results will be prepared for publication in a suitable scientific journal to contribute to the existing body of knowledge. The research findings will also be disseminated online, potentially through academic platforms, research repositories, or the institution's website, to reach a wider audience and facilitate knowledge sharing.

4.16 Ethical consideration

The study was carried out following the receipt of an ethical approval letter from the Research and Ethical Committee at Arsi University College of Health Sciences. In addition, after explaining the importance of the study, permission letters were taken from each of the head health facility administrators, and electronic informed consent was obtained from each study participant. The respondents were also informed that they had the full right to withdraw or refuse at any time from the process. Confidentiality of information given by each respondent was kept properly and anonymity was explained clearly to the participants.

5. Results

5.1 Socio-demographic characteristics of the study participants

A total of 385 participants were involved in the study of which 81% was from ARTH and the remaining 19% were from Tokuma Primary Hospital. The majority of participants were urban residents (57.7%) and were predominantly married (94.3%); other marital statuses, including single, divorced, and widowed, represented less than 6% of the cohort. Most participants were in the age range of 20–34(81.30%), with a mean age of 26.36 ± 5.24 years. Analysis of educational attainment revealed that 43.9% of participants had completed primary school, while 31.17% had reached secondary school. Approximately 18.96% had achieved higher college-level education or above, whereas 5.97% reported having no formal education. In terms of socioeconomic status, the majority of participants (47.01%) reported a monthly household income of 8500–15000 ETB. The remainder of the population was split between the lowest income bracket (36.36%) and the high-income tier (16.62%), indicating a study population largely characterized by limited to moderate financial resources.

Table 1: Distribution of Participants by Socio-demographic Characteristics at Health facility in Asella Town, Oromia, Ethiopia, August 5/2025 – December 15/2025 (n=385)

Variables and Categories	Frequency (n)	Percentage (%)
Data Collection Sites		
ARTH	312	81.0%
Tokuma Primary Hospital	73	19.0%
Residency		
Urban	222	57.7%
Rural	163	42.3%
Age		
	Mean $\pm$ SD: 26.36 ± 5.24	
Less than 20	28	7.27%
20–34	313	81.30%
35 and above	44	11.43%
Marital Status		

Married	363	94.29%
Not married	22	5.71%
Level of Education		
No formal education	23	5.97%
Primary school	169	43.9%
Secondary school	120	31.17%
Higher college and above	73	18.96%
Household Income		
<8.5k ETB per month	140	36.36%
8.5-15k ETB per month	181	47.01%
>15k ETB per month	64	16.62%

NB: - Not Married constitute single, divorced, and widowed. ARTH=Asella Referral and Teaching Hospital. SD= Standard deviation.

5.2 Obstetric factors characteristic of the study population

Of the participants, 52.47% had previously given birth vaginally, while 47.53% were experiencing their first delivery. Fetal presentation was predominantly vertex (97.92%), the other presentations, such as breech and face accounted for about 2.08%.

Clinical management data indicated that around one-third of participants (31.43%) reported oxytocin use. Remarkably, labor analgesia was rarely used, with 95.84% of women not receiving any pharmacological pain relief. In terms of procedural ethics, consent for an episiotomy procedure was obtained from 54.04% of respondents, whereas 45.96% stated they were not notified before the execution of the procedure. Most participants (74.29%) completed the second stage of labor (SSOL) in less than one hour, although 8.83% had a prolonged duration exceeding two hours.

Instrumental assistance was needed in 10.91% (n=42) of deliveries, with the vacuum delivery being the primary instrument used in 90.48% compared to forceps where it was used in 9.52% of instrumental deliveries. The main reasons for these interventions were fetal distress and prolonged SSOL, each accounting for 40.48%. Additionally, 31.43% of the cohort had a history of previous perineal scarring, while only a small percentage (3.38%) reported a history of Cesarean delivery

Table 2: Distribution of Participants by Obstetric factors at Health facility in Asella Town, Oromia, Ethiopia, August 5/2025 – December 15/2025 (n=385)

Variables and Categories	Frequency (n)	Percentage (%)
Parity		
Multipara	202	52.47%
Primipara	183	47.53%
Induction of Labor		
No	264	68.57%
Yes	121	31.43%
Instrumental delivery		
No	343	89.09%
Yes	42	10.91%
Type of Instrumental Delivery (n=42)		
Vacuum	38	90.48%
Forceps	4	9.52%
Indications of Instrumental Delivery (n=42)		
Prolonged SSOL	17	40.48%
Fetal distress	17	40.48%
Maternal Exhaustion	8	19.05%
Cardiac disease	4	9.52%
PE/Eclampsia	2	4.76%
Not specified	2	4.76%
Intrapartum analgesia utilization		
No	369	95.84%
Yes	16	4.16%
Duration of Second Stage of Labor (SSOL)		
Less than 1 hr	286	74.29%
1–2 hr	65	16.88%
Above 2 hr	34	8.83%
Fetal Presentation		
Vertex	377	97.92%
Breech	7	1.82%
Face	1	0.26%
Previous Perineal Scar		
No	81	40.10
Yes	121	59.90
Consent for Episiotomy		
Yes	127	54.04%
No	108	45.96%
Previous Cesarean Delivery (CD)		
No	372	96.62%
Yes	13	3.38%

5.3 Baseline maternal and fetal condition of the study participant

Regarding maternal and fetal condition of the participants Body Mass Index (BMI), showed that the majority (74.81%) fell within the normal weight range, 14.55% had high BMI of above 25kg/m² while 10.65% were underweight.

In terms of prenatal care, high proportion of mothers (91.17%) had at least one ANC follow-up during their pregnancy. Conversely, 8.83% of the participants had no formal antenatal care. While the vast majority of participants (91.9%) had no pre-existing or pregnancy-induced medical conditions, 8.1% (n=31) reported medical complications. Among those with medical conditions: Preeclampsia/Eclampsia was the most prevalent, accounting for 61.29% of the complications. Asthma was reported by 16.13%. Other conditions included Heart Failure (9.68%), Diabetes (9.68%), and HIV/AIDS (6.45%). Chronic Hypertension (CHTN) and Thyrotoxicosis were each present in 3.23% of the complicated cases.

In terms of Estimated Fetal Weight (EFW) the vast majority of newborns (88.31%) were within the normal weight range of 2500–3999g and 8.57% of the fetuses were considered low birth weight (<2500g). Macrosomia (EFW ≥ 4000g) was identified in 3.12% of the deliveries

Regarding gestational age at delivery, the majority of births occurred between 37 and 40+6 weeks, with the highest concentration in the 39–40+6 week window (31.95%). It is notable that for nearly a quarter of the participants (24.94%), the gestational age was recorded as unknown. Premature deliveries (before 37 weeks) and post-term deliveries (beyond 42 weeks) were relatively infrequent, accounting for 4.16% and 1.56% of cases, respectively.

Table 3: Distribution of Participants by maternal and fetal condition at Health facility in Asella Town, Oromia, Ethiopia, August 5/2025 – December 15/2025 (n=385)

Variables and Categories	Frequency	Percent
Estimated fetal weight in grams		
<1499gm	13	3.38%
1500-2499gm	20	5.19%
2500-3999gm	340	88.31%
>= 4000gm	12	3.12%

BMI of the mothers		
less than 18.5	41	10.65%
18.5-24.9	288	74.81%
above 25	56	14.55%
ANC follow up		
No	34	8.83%
Yes	351	91.17%
Medical conditions		
No	354	91.9%
Yes	31	8.1%
Type of medical conditions		
Heart failure	3	9.68%
Asthma	5	16.13%
PE/eclampsia/CHTN	20	64.52%
Diabetes	3	9.68%
Other	3	9.68%
Gestational age at delivery		
Unknown	96	24.94
Preterm	16	4.16
Term	238	61.82
late and post term	35	9.09

5.4 Baseline characteristics of birth attendants

The data indicates that deliveries were primarily managed by midwives (44.42%) and residents (39.48%). Medical interns accounted for the attendance of 14.03% of births, while senior obstetricians were directly involved in 2.08% of the cases (n=8).

Regarding professional experience, a significant portion of the deliveries was attended by staff with less than two years of experience (40.26%), followed by mid-level experience with 34.29% of attendants having practiced for 5–9 years and 19.48% for 3–4 years. Only a small minority of

births (5.97%) were attended by highly experienced professionals with more than 10 years of clinical practice.

Table 4: Distribution of Participant by birth attendants at Health facility in Asella Town, Oromia, Ethiopia, August 5/2025 – December 15/2025 (n=385)

Variable and Category	Frequency	Percent
Profession types of birth attendee		
Midwives attended	171	44.42
Residents and obstetrician attended	160	41.55
medical intern attended	54	14.03
Years of experience of birth attendant		
<2years	155	40.26
2-5years	75	19.48
>5years	155	40.26

5.5 Magnitude of Episiotomy Practice

Out of **385** women who had vaginal deliveries, **235** underwent an episiotomy, representing an overall magnitude of **61.04%**. The prevalence was substantially higher among primipara at **83.06%** (152 out of 183) and was notably lower at **41.09%** (83 out of 202) among parous women's. Instrumental delivery (vacuum or forceps) demonstrated a nearly universal association with the procedure, with episiotomy performed in 100% of forceps and 97.37% of vacuum deliveries. Strikingly episiotomy practice were also high at 56.6% among spontaneous vaginal

deliveries.

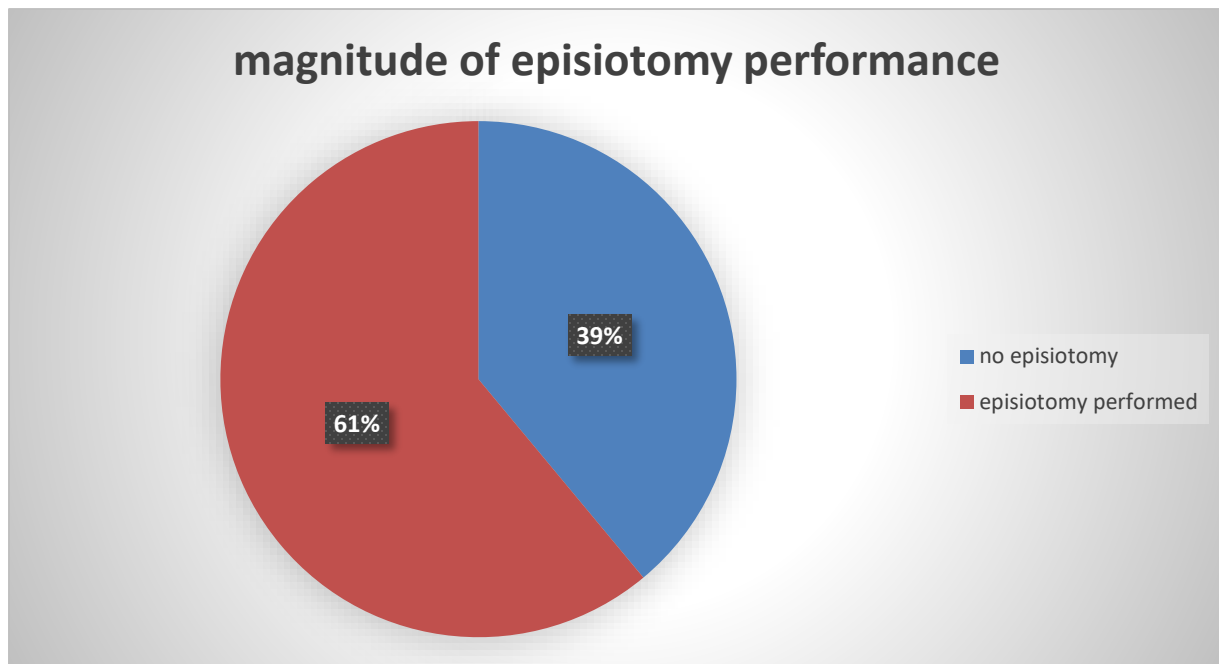


Figure 2: Magnitude of episiotomy practice at Health facility in Asella Town, Oromia, Ethiopia, August 5/2025 – December 15/2025 (n=385)

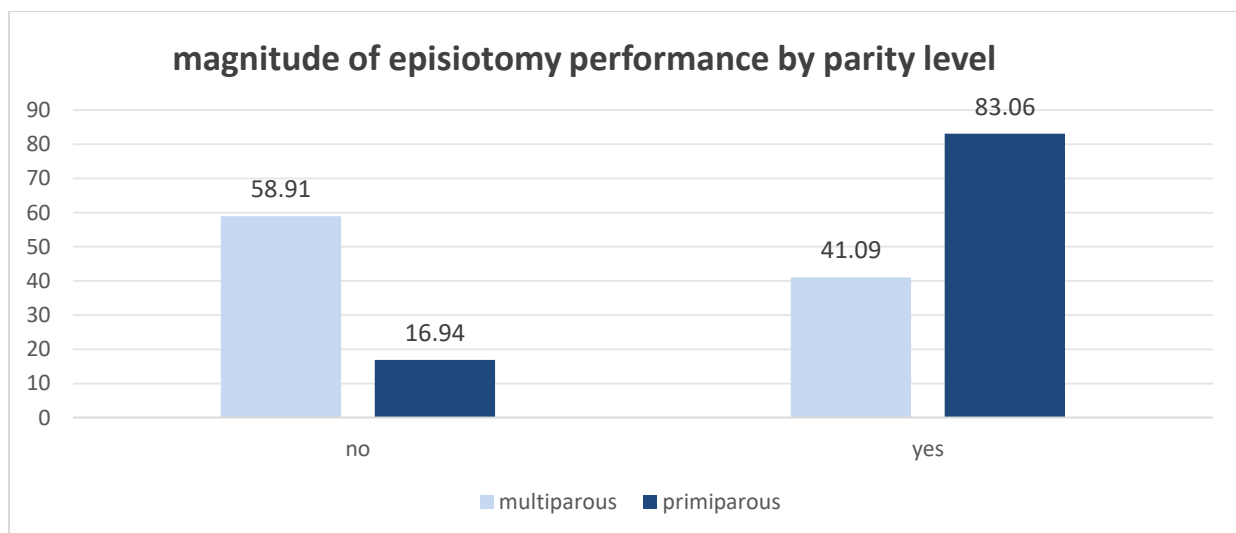


Figure 3: Magnitude of episiotomy practice by Parity level at Health facility in Asella Town, Oromia, Ethiopia, August 5/2025 – December 15/2025 (n=385)

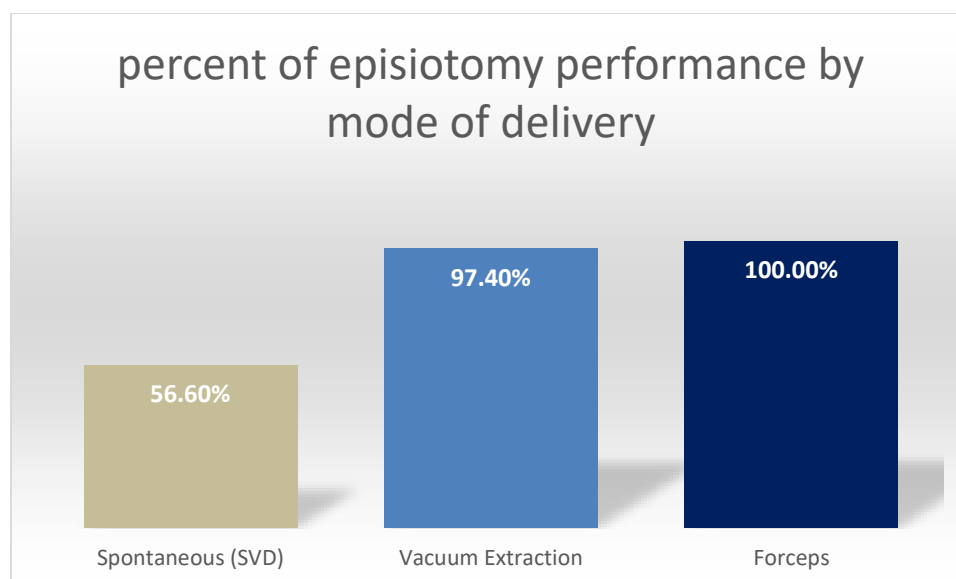


Figure 4: Rate of episiotomy performance by mode of delivery at Health facility in Asella Town, Oromia, Ethiopia, August 5/2025 – December 15/2025 (n=385)

5.6 Analysis of Factors Associated with Episiotomy

Variables were screened for the final model using a bivariate analysis p-value threshold of ≤ 0.25 and an assessment of biological plausibility. Consequently, the following variables were fitted into the multivariable logistic regression model: maternal age, BMI, household income, parity status, second stage of labor (SSOL) duration, presence of NRFHRP, estimated fetal weight (EFW), and birth attendant profession, and years of experience. Among these, parity status, maternal BMI >25 kg/m², high household income, and delivery attendance by medical interns remained independently and significantly associated with episiotomy practice.

As shown in the table below, Primipara women had 7.93 times higher odds of receiving an episiotomy compared to multigravida women (AOR=7.93;95%CI: 4.76–13.20). Mothers with a BMI >25 kg/m² were 4.81 times more likely to undergo the procedure (AOR=4.81;95%CI: 2.11-10.97) than those with a normal BMI.

Woman in high income bracket were 2.83 times more likely to have episiotomy compared to middle income group (AOR=2.83; 95% CI: 1.34-5.96). Additionally, deliveries managed by medical interns carried 2.71 times higher odds of episiotomy compared to those managed by midwives (AOR=2.71;95%CI: 1.24–5.90).

Table 5: Bivariate and multivariable logistic regression of factors associated with episiotomy practice among women who gave birth in Health Facilities of Asella Town, Oromia, Ethiopia, August 5/2025 – December 15/2025 (n=385)

Variables	Episiotomy Practice		COR (95% CI)	AOR (95% CI)	P-Value
	(No) n (%)	(Yes) n (%)			
Parity					
Multiparous	119 (58.9)	83 (41.1)	1	1	
Primipara	31 (16.9)	152 (83.1)	7.03 (4.36–11.33)	7.93 (4.76-13.20)	<0.001*
Profession of Attendee					
Midwife	84 (49.1)	87 (50.9)	1	1	
Resident/Obstetrician	53 (33.1)	107 (66.9)	1.95 (1.25–3.04)	1.59 (0.95–2.67)	0.076
Medical Intern	13 (24.1)	41 (75.9)	3.04 (1.52–6.08)	2.71 (1.24–5.90)	0.012*
Maternal BMI					
Normal (<25)	141 (42.7)	188 (57.3)	1	1	
Overweight (>25)	9 (16.1)	47 (83.9)	3.92 (1.85–8.31)	4.81 (2.11–10.97)	<0.001*
Household Income (ETB)					
Middle (8.5k–15k)	78 (43.1)	103 (56.9)	1	1	
Lower (<8.5k)	58 (41.4)	82 (58.6)	1.07 (0.68–1.67)	0.94 (0.55–1.59)	0.813
High (>15k)	14 (21.9)	50 (78.1)	2.70 (1.39–5.24)	2.83 (1.34–5.96)	0.006*
Age category					
20–34	124 (39.6)	189 (60.4)	1	1	
<20	4 (14.3)	24 (85.7)	3.36 (2.05–5.48)	2.26 (0.65–7.91)	0.201
>35	22 (50.0)	22 (50.0)	0.93 (0.48–1.79)	0.98 (0.46–2.09)	0.950
Marital status					
Married	147 (40.5)	216 (59.5)	1	1	
Unmarried	3 (13.6)	19 (86.4)	4.31 (1.25–14.83)	3.92(0.99-15.45)	0.051
SSOL Duration					
Less than 1hr	125 (43.7)	161 (56.3)	1	1	
1–2hr	17 (26.2)	48 (73.8)	2.19 (1.20–3.99)	1.41 (0.76–2.60)	0.277

Experience level					
<2 years	51 (32.9)	104 (67.1)	1	1	
2–5 years	25 (33.3)	50 (66.7)	0.98 (0.55–1.76)	1.33 (0.62–2.86)	0.458
>5 years	74 (47.7)	81 (52.3)	0.54 (0.34–0.85)	1.04 (0.48–2.26)	0.927
NRFHR Pattern					
No	140 (40.1)	209 (59.9)	1	1	
Yes	10 (27.8)	26 (72.2)	1.74 (0.81–3.72)	1.89 (0.76–4.68)	0.170
Estimated Fetal Weight					
<2.5kg	15 (45.5)	18 (54.5)	1	1	
2.5–3.99kg	133 (39.1)	207 (60.9)	1.29 (0.63–2.66)	2.12 (0.89–5.04)	0.090
>4kg	2 (16.7)	10 (83.3)	4.17 (0.79–22.04)	4.23 (0.62–9.01)	0.142

Note: Model fitness was assessed using the Hosmer-Lemeshow goodness-of-fit test ($\chi^2 = 13.80$, $p = 0.965$), indicating a good fit for the data. The Mean Variance Inflation Factor (VIF) was 1.12, showing no evidence of multicollinearity. Abbreviations: AOR, Adjusted Odds Ratio; COR, Crude Odds Ratio; CI, Confidence Interval; HH income, Household Income; BMI, Body Mass Index. *Statistically significant at $p < 0.05$

6. DISCUSSION

The objective of this research was to determine the prevalence of episiotomy and identify its determinants among women delivering at a health facility in Asella town. The results indicate that more than half of women who gave birth experienced an episiotomy. Furthermore, the study participants' household income, parity status, BMI, and the profession of the birth attendant were significantly associated with the prevalence of episiotomy in this population.

The study found an episiotomy prevalence of 61.04%. On a global scale, this magnitude is significantly higher than the recent magnitude in USA (4.6%) (27) and the WHO-recommended rate which was less than 10% (1). When compared to continental trends, our findings sit between the 73% reported in Uganda (32) and the 20.4% observed in the Democratic Republic of the Congo (33). Nationally, this prevalence is higher than the 42.75% reported in the pooled systematic review and meta-analysis by Aragaw FM et al. and the 35.2% reported in Akaki Kaliti, Addis Ababa, by Worku SA et al. However, it is still lower than the 68% reported in Arba Minch by Fikadu et al. (36, 37, 39). This increased prevalence is likely due to multiple factors,

primarily the insufficient implementation of restrictive policies and the underutilization of antenatal and intrapartum preventive strategies (17). The high prevalence of episiotomy may stem from the facility's status as a tertiary referral and teaching hospital, which manages a high volume of complex cases requiring expedited delivery.

Obstetric history, specifically parity, was a dominant predictor of episiotomy. Primiparous women experienced an 83.06% performance rate and were 7.93 times more likely to undergo the procedure than multiparous women. This figure is comparable to rates reported in Turkey (93.3%) (11) and Palestine (78.8%) (29), as well as local data from Saint Paul's Hospital in Addis Ababa (84.2%), though it exceeds the Ethiopian national average of 61.45% for first-time mothers (38, 39). The frequent use of episiotomy in nulliparous women is often attributed to perceived perineal rigidity; however, this trend persists in the study area despite WHO and ACOG recommendations against routine use (1, 9). To align with evidence-based practices, clinicians should consider interventions such as digital perineal massage and non-supine birthing positions to enhance perineal elasticity and reduce the need for surgery (34).

Additionally, deliveries attended by medical interns carried 2.71 times higher odds of episiotomy compared to those managed by midwives. This figure align with the report by woldegeorgis et al. who reported medical doctors- assisted delivery have odd of 3.67 when compared to midwives attended delivery (31). This highlights the influence of provider training levels and perhaps a more interventionist approach during the medical learning curve.

Furthermore, household income emerged as a significant independent predictor of episiotomy. Women in the highest income bracket (>15,000 ETB) faced 2.83 times higher odds of undergoing the procedure compared to those in the middle-income group. This trend is supported by studies such as Cesar et al. (2022) in Brazil and Austad et al. (2024) in India. Specifically, Cesar et al. (2022) in Brazil reported a relative risk of 1.25 for episiotomy among wealthier demographics. Both paper demonstrated that higher family income is a primary driver for the institutionalization of birth and increased episiotomy rates. In this study population the high trend likely stem from lack of utilization of preventive methods (28, 40).

Maternal physical characteristics, specifically Body Mass Index (BMI), play a significant and complex role in determining the likelihood of an episiotomy. In this study, mothers with a BMI ≥ 25 kg/m² were 4.81 times more likely to undergo the procedure. This finding aligns with a multicenter cohort study by Diallo et al. (2025), which found that obese women were 2.5 times more likely to receive an episiotomy, often due to a higher incidence of labor complications such as a prolonged second stage and the increased need for instrumental delivery (47). Similarly, Banaei et al. (2024) identified high BMI as a top clinical predictor for episiotomy, citing its association with fetal macrosomia and higher induction rates (58). However, these results are contradicted by the study in Arba Minch by Fikadu et al. (2020), where a lower BMI (<25 kg/m²) was 2.9 times more likely to associate with the procedure suggesting that local clinical perceptions or differences in perineal tissue elasticity among thinner women may influence practice differently in certain contexts (36).

Descriptive analysis revealed that instrumental delivery was almost universally associated with episiotomy performance. Within this study population, the procedure was performed in 100% of forceps-assisted births and 97.40% of vacuum extractions. This rate is notably higher than figures reported in France, where episiotomy during forceps delivery is approximately 75% to 85%. While these findings align with traditional clinical practices, this variable was excluded from the final multivariable model due to insufficient precision (likely arising from small cell sizes and near-perfect prediction). Consequently, while these descriptive trends are clinically significant, further investigation with a larger sample size is required to determine its independent risk (44).

Finally, we found a critical ethical concern identified in this study. 45.96% of episiotomies were performed on mother who was an aware and without consent for the procedure. This suggests that practitioners are perceiving the procedure as a routine clinical task rather than a surgical intervention requiring explicit patient permission. Such findings underscore a significant gap in respecting maternal autonomy and highlight the urgent need for enhanced ethical training and the adoption of more restrictive clinical guidelines to ensure that patients are active participants in their delivery decisions (59).

7. Conclusion

In conclusion, the prevalence of episiotomy in this study was 61.04%, with the rate among primipara women reaching 83.06%. Multivariable analysis identified primiparity, high maternal BMI, high household income, and the profession of the birth attendant as independent predictors of the procedure. About 45.96% of episiotomies were performed before formal consent for the procedure.

8. Recommendations

1. For Healthcare Providers and Clinicians
 - Transition to Evidence-Based practice and must align to WHO recommendation of restrictive episiotomy practice to lower this unacceptably high prevalence.
 - Given that deliveries by medical interns showed 2.71 times higher odds of episiotomy, the senior clinicians should provide active bedside supervision to ensure interns learn the significance of this practice and focus on prevention rather than judicious performance of episiotomy cut.
 - A physician should always take consent before episiotomy practice like any other procedure and the performance should be after clear understanding of its indications and possible outcomes.
2. For ARTH and Tokuma Primary Hospital Management Team
 - Hospitals management team should use this study's prevalence as a baseline indicator and conduct an annual institutional audit of episiotomy rates to track progress toward adopting more restrictive practices.
 - Hospitals should transition from informal or provider-directed decision-making to a standardized, written informed consent process; so that the procedure is performed only with explicit, documented maternal authorization when clinically necessary.
 - Clinical mentor-ship for all birth attendant, especially for medical interns should be strengthened to reduce the reliance on surgical intervention to reduce perineal tear during their training period.
3. For Regional and National Policy makers (Oromia Health Bureau & FMoH)

- The Oromia Health Bureau and FMOH should utilize these findings as a representative indicator for the Arsi Zone to refine the regional baseline, and then monitor regularly on prevalence of the procedure.
 - To decrease the high prevalence in the region, the Federal Ministry of Health should move from merely endorsing restrictive policies to actively supervising and enforcing alignment with evidence based practice through regular training and monitoring.
4. For the Research Community
- We propose future studies with larger sample sizes to achieve the statistical power necessary to assess variables that showed clinical relevance but lacked precision in this model, specifically instrumental delivery, marital status, previous Cesarean section scars and previous perineal scar including FGM.
 - To study reason for this high prevalence we recommend to conduct qualitative research to investigate the provider-side attitudes and institutional norms that drive high intervention rates, in spite of consent.
 - We recommend prospective follow-up studies to quantify the long-term clinical sequelae of routine episiotomy within the Oromia region to better understand the true burden of the practice.

9. Strengths and Limitations

The strength of this study lies in its inclusion of both a tertiary referral hospital and a primary hospital, which enhances external validity. The other strength is being the first study in the region.

However, the study is subject to several limitations. Its institutional scope may limit the generalizability of the findings to rural health centers or private facilities with different resource constraints. Additionally, the cross-sectional design allows for the identification of associations but precludes the establishment of definitive causality. Finally, the use of interviewer-administered questionnaires may have introduced social desirability bias; participants might have over-reported positive experiences or felt inhibited in criticizing hospital protocols while in a clinical environment.

10. References

1. WHO. World Health Organisation Recommendation on Episiotomy Policy. WHO Geneva; 2018.
2. Pebolo Pebalo F AJ. Update and Trend in Episiotomy Practice. Current Challenges in Childbirth: IntechOpen; 2022.
3. Cleary-Goldman J, Robinson JN. The role of episiotomy in current obstetric practice. *Semin Perinatol*. 2003;27(1):3-12.
4. THACKER SB, BANTA HD. Benefits and Risks of Episiotomy: An Interpretative Review of the English Language Literature, 1860–1980. *Obstetrical & Gynecological Survey*. 1983;38(6):322-38.
5. Graham ID, Carroli G, Davies C, Medves JM. Episiotomy rates around the world: an update. *Birth*. 2005;32(3):219-23.
6. Clesse C, Lighezzolo-Alnot J, De Lavergne S, Hamlin S, Scheffler M. Statistical trends of episiotomy around the world: Comparative systematic review of changing practices. *Health care for women international*. 2018;39(6):644-62.
7. Morgan R, Korb D, Sibony O. Classification and evaluation of episiotomy practices from 2004 to 2020 and association with OASIS. *International Journal of Gynecology & Obstetrics*. 2022;159(1):237-45.
8. Van der Waal R, Mayra K. Obstetric violence. *Gender-Based Violence: A Comprehensive Guide*: Springer; 2023. p. 413-25.
9. ACOG Practice Bulletin No. 198: Prevention and Management of Obstetric Lacerations at Vaginal Delivery. *Obstet Gynecol*. 2018;132(3):e87-e102.
10. Nassar AH, Visser GHA, Ayres-de-Campos D, Rane A, Gupta S. FIGO Statement: Restrictive use rather than routine use of episiotomy. *Int J Gynaecol Obstet*. 2019;146(1):17-9.
11. Kartal B, Kızılırmak A, Calpbiniçi P, Demir G. Retrospective analysis of episiotomy prevalence. *Journal of the Turkish German Gynecological Association*. 2017;18(4):190.
12. Deyaso ZF, Chekole TT, Bedada RG, Molla W, Uddo EB, Mamo TT. Prevalence of episiotomy practice and factors associated with it in Ethiopia, systematic review and meta-analysis. *Women's Health*. 2022;18:17455057221091659.
13. Garba I, Ozegya M, Abubakar I, Ayyuba R. Episiotomy at Aminu Kano teaching hospital, Kano, Nigeria: a 3-year review. *Archives of international Surgery*. 2016;6(1):17-.
14. Ye J, Chen Y, Yang H, Chen Q, Huang Y, Zhao J, et al. A nationwide cross-sectional survey of episiotomy practice in China. *The Lancet Regional Health–Western Pacific*. 2022;19.
15. He S, Jiang H, Qian X, Garner P. Women’s experience of episiotomy: a qualitative study from China. *BMJ open*. 2020;10(7):e033354.
16. Gün İ, Doğan B, Özdamar Ö. Long-and short-term complications of episiotomy. *Turkish journal of obstetrics and gynecology*. 2016;13(3):144.
17. Oladapo O, Tunçalp Ö, Bonet M, Lawrie T, Portela A, Downe S, et al. WHO model of intrapartum care for a positive childbirth experience: transforming care of women and babies for improved health and wellbeing. *Bjog*. 2018;125(8):918.
18. Warren C, Njue R, Ndwiga C, Abuya T, Kabo J, SM A, et al. WHO recommendations: Intrapartum care for a positive childbirth experience. *BMC Pregnancy Childbirth*. 2018.
19. Graham ID. Processes of change in obstetrics: A cross-national case-study of episiotomy. *Health*. 1998;2(4):403-33.
20. Technical Working Group WHO. Care in normal birth: a practical guide. *Birth*. 1997;24(2):121-3.
21. Carroli G, Mignini L. Episiotomy for vaginal birth. *Cochrane database of systematic reviews*. 2009(1).
22. Jiang H, Qian X, Carroli G, Garner P. Selective versus routine use of episiotomy for vaginal birth. *Cochrane Database of Systematic Reviews*. 2017(2).

23. Federal Ministry of Health E. Basic emergency obstetric and newborn care (BEmONC): training package. Addis Ababa: MOH elibrary 2020.
24. Wright A, Nassar AH, Visser G, Ramasauskaite D, Theron G, Motherhood FS, et al. FIGO good clinical practice paper: management of the second stage of labor. *International Journal of Gynecology & Obstetrics*. 2021;152(2):172-81.
25. Niguse K, Gidey G, Gebrehiwot H, Abay M, Getachew D, Worku T. Episiotomy practice and its associated factors among mothers who gave birth vaginally at public health institutions of Shire Town, Northern Ethiopia. *infection*. 2016;8(9):10-37591.
26. Borghi J, Fox-Rushby J, Bergel E, Abalos E, Hutton G, Carroli G. The cost-effectiveness of routine versus restrictive episiotomy in Argentina. *American journal of obstetrics and gynecology*. 2002;186(2):221-8.
27. Leapfrog. The Leapfrog Group 2023 Report on Trends in C-Sections, Early Elective Deliveries, and Episiotomies. washington DC: The leapfrog group; 2023.
28. Cesar JA, Marmitt LP, Mendoza-Sassi RA. Episiotomy in Southern Brazil: prevalence, trend, and associated factors. *Revista de saude publica*. 2022;56:26.
29. Zimmo K, Laine K, Fosse E, Zimmo M, Ali-Masri H, Zucknick M, et al. Episiotomy practice in six Palestinian hospitals: a population-based cohort study among singleton vaginal births. *BMJ open*. 2018;8(7):e021629.
30. Golzareh P, Sultani S, Mann EM, Mohammadi KM. The prevalence of episiotomy and associated factors at Shahrara Teaching Hospital in Kabul, Afghanistan. *BMC Pregnancy and Childbirth*. 2025;25(1):101.
31. Woldegeorgis BZ, Obsa MS, Tolu LB, Bogino EA, Boda TI, Alemu HB. Episiotomy practice and its associated factors in Africa: A systematic review and meta-analysis. *Frontiers in Medicine*. 2022;9:905174.
32. Pebolo PF, Ajeani J, Kaye Kabonge D. Prevalence and factors associated with episiotomy practice among primiparous women in mulago national referral hospital Uganda. 2019.
33. Innocent N, Philémon MM, Prince I, Justine Y, Ntakwinja M, Olivier N, et al. Factors associated with episiotomy practice in Bukavu, Democratic Republic of the Congo. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*. 2018;7(7):2554.
34. Azu TD, Abraham SA, Doe PF, Amoadu M, Owusu G. Prevalence and predictors of episiotomy among puerperal women accessing postnatal care in the Kumasi Metropolis. *BMC Pregnancy and Childbirth*. 2024;24(1):750.
35. Adama O, Natacha LB, Smaila O, Alexis SY, Francoise MT, Charlemagne OM, et al. Episiotomy: epidemiological aspects, indications and prognosis in the Bogodogo Health District. *Open Journal of Obstetrics and Gynecology*. 2018;8(13):1354-63.
36. Fikadu K, Boti N, Tadesse B, Mesele D, Aschenaki E, Toka E, et al. Magnitude of Episiotomy and Associated Factors among Mothers Who Give Birth in Arba Minch General Hospital, Southern Ethiopia: Observation - Based Cross - Sectional Study. *Journal of Pregnancy*. 2020;2020(1):8395142.
37. Worku S, Mitku Y, Getahun S. Episiotomy practice and its associated factor among women who gave birth at Public Health Institutions of Akaki Kaliti in Addis Ababa, Ethiopia. *Clin Mother Child Health*. 2019;16(318):2.
38. Tefera T, Kebede B, Mekonen T. Prevalence of episiotomy and factors associated with practice of episiotomy at Saint Paul's Hospital millennium medical college: a cross sectional study. *Ethiopian Journal of Reproductive Health*. 2019;11(3):8-.
39. Aragaw FM, Belay DG, Endalew M, Asratie MH, Gashaw M, Tsega NT. Level of episiotomy practice and its disparity among primiparous and multiparous women in Ethiopia: A systematic review and meta-analysis. *Frontiers in Global Women's Health*. 2023;4:1153640.
40. Austad KE, Rao SR, Hibberd PL, Patel AB. Trends and determinants of the use of episiotomy in a prospective population-based registry from central India. *BMC Pregnancy and Childbirth*. 2024;24(1):598.

41. Urmee J, Vwalika B. The maternal factors and short term outcomes associated with episiotomy during vaginal delivery at Women and Newborn Hospital, Lusaka, Zambia. *Medical Journal of Zambia*. 2022;49(2):163-9.
42. Howden NL, Weber AM, Meyn LA. Episiotomy use among residents and faculty compared with private practitioners. *Obstetrics & Gynecology*. 2004;103(1):114-8.
43. Carvalho CCMd, Souza ASR, Moraes Filho OB. Prevalência e fatores associados à prática da episiotomia em maternidade escola do Recife, Pernambuco, Brasil. *Revista da Associação Médica Brasileira*. 2010;56:333-9.
44. Clesse C, Cottenet J, Lighezzolo-Alnot J, Goueslard K, Scheffler M, Sagot P, et al. Author Correction: Episiotomy practices in France: epidemiology and risk factors in non-operative vaginal deliveries. *Scientific Reports*. 2021;11:6839.
45. Goueslard K, Cottenet J, Roussot A, Clesse C, Sagot P, Quantin C. How did episiotomy rates change from 2007 to 2014? Population-based study in France. *BMC pregnancy and childbirth*. 2018;18(1):208.
46. Shmueli A, Gabbay Benziv R, Hirsch L, Ashwal E, Aviram R, Yogev Y, et al. Episiotomy—risk factors and outcomes. *The Journal of Maternal-Fetal & Neonatal Medicine*. 2017;30(3):251-6.
47. Diallo A BE, Bah IK, Sy T, Houna LA, Corbaz F, Desseauve D. Maternal obesity in low-resource settings: a multicenter cohort study of labor and neonatal outcomes in Guinea. *Front Med (Lausanne)*. 2025;12.
48. Bekele H, Tamiru D, Debella A, Getachew A, Yohannes E, Lami M, et al. Magnitude of episiotomy practice and associated factors among women who gave birth at Hiwot Fana Specialized University Hospital, Eastern Ethiopia. *Frontiers in Global Women's Health*. 2022;3:911449.
49. Seboka G, Abdeta G, Kalayu I. Maternal Mortality and its Determinants among Wom-en Utilized Obstetrics and Gynecologic Services in Asella Teaching and Referral Hospital. Oromia Region, Ethiopia. 2018. 2019.
50. Shero AA, Kaso AW, Tafa M, Agero G, Abdeta G, Hailu A. Cervical cancer screening utilization and associated factors among women attending antenatal care at Asella Referral and Teaching Hospital, Arsi zone, South Central Ethiopia. *BMC Women's Health*. 2023;23(1):199.
51. Tefera TK, Birhanu Mekonen, Tadios, . PREVALENCE OF EPISIOTOMY AND FACTORS ASSOCIATED WITH PRACTICE OF EPISIOTOMY AT SAINT PAUL'S HOSPITAL MILLENNIUM MEDICAL COLLEGE: A CROSS SECTIONAL STUDY. 2019.
52. Dannecker C, Hillemanns P, Strauss A, Hasbargen U, Hepp H, Anthuber C. Episiotomy and perineal tears presumed to be imminent: randomized controlled trial. *Acta obstetrica et gynecologica Scandinavica*. 2004;83(4):364-8.
53. Alison G. Cahill M, MSCI; Nandini Raghuraman, MD, MSCI; and Manisha Gandhi, MD. First and Second Stage Labor Management. ACOG Committee on Clinical Practice Guidelines. 2024;8.
54. Macrosomia: ACOG Practice Bulletin, Number 216. *Obstet Gynecol*. 2020;135(1):e18-e35.
55. Report B. Living Wage Report and 2025 Update for Rural Oromia, Ethiopia. Anker Research Institute. 2025.
56. report ESS. Ethiopian Statistics Service (ESS). (2026). Consumer Price Index and Household Expenditure Report. 2026.
57. Cunningham FG, Leveno KJ, Dashe JS, Hoffman BL, Spong CY, Casey BM. *Williams Obstetrics*, 26e. New York, NY: McGraw Hill; 2022.
58. Banaei M, Roozbeh, N., Darsareh, F., Mehrnoush, V., Farashah, M. S. V., & Montazeri, F. Utilizing machine learning to predict the risk factors of episiotomy in parturient women. *AJOG global reports*. 2024;1.
59. He S JH, Qian X, Garner P. Women's experience of episiotomy: A qualitative study from China. 2020.

Declarations

Annex: English version questioner

Arsi University, College of Health Sciences Department of Obstetrics and Gynecology

Questionnaire designed to assess the magnitude of episiotomy practice and associated factor among woman who gave birth vaginally at Asella referral and teaching hospital and AHC.

Greetings, My name is DR._____, and I am a data collector for Dr Gadisa Berhane from Arsi University, College of Health Sciences, Department of Obstetrics and Gynecology. We are conducting a study to assess the magnitude of episiotomy practice and associated factor among woman who gave birth vaginally at Asella referral and teaching hospital and AHC. We would like to invite you to participate in this study. The interview will take about 20 minutes. Please be assured that the study is anonymous, and your personal information will be treated with the utmost confidentiality. Your involvement in this research is entirely voluntary and greatly appreciated. You have the right to decline participation or withdraw at any time if you feel uncomfortable. Additionally, we want to emphasize that this study has been approved and ethically cleared by the Research Institutional Review Board of Arsi University College of Health Science. By continuing with the interview, you consent to participate in the study. You have been given the necessary information about the research in a language you understand. You also know that you can withdraw your consent at any time without penalty or loss of benefits. Please confirm your willingness to participate by providing your signature below:

Consent Form

I agree to participate in this study voluntarily. I have received all the necessary information about

the research in a language that I understand. I am aware that I have the right to withdraw my consent at any time without facing any negative consequences or losing any benefits. I confirm my willingness to participate in the study.

Participant's Signature: _____

Date: _____

Data collector name _____ Signature _____

Questionnaire number (code).....

MRN of Mother.....

	Identification and Sociodemographic factors
1.	Residency 1. Urban 2. Rural
2.	Age _____
3.	Marital status? 1. Married 2. Single 3. Widowed 4. Divorced
4.	Occupation? 1. Employee 2. Farmer 3. Housewife 4. Unemployed 5. student
5.	Highest level of education completed: 1. No formal education 2. Primary education 3. Secondary education 4. Higher education(college and above)
6.	What religion do you follow? 1. Orthodox 2. Muslim 3. Protestant 4. Wakefata 5. Catholic
7.	What is your monthly income in ETB? _____
Obstetrics factors associated with episiotomy practice	
8.	Is this your first delivery? 1. Yes 0. No

9.	If your answer to Question 8 is no, how many babies were born vaginally before? (Including SB and ENL) 1. One (primiparous) 2. 2-4(multiparous) 3. 5-9(GMP) 4.>10(GGMP) 5. I had abortion/ectopic pregnancy only
10.	Is your labor induced using oxytocin? 1. Yes 0. No
11.	During your vaginal birth were you assisted with any instruments? 1. Yes 0. No
12.	If client's answer to question 11 was yes, which instrument were used? (This information should be obtained from maternal chart) 1. Forceps 2. Vacuum 3. Destructive Deliveries
13.	If client's answer to question 11 was yes, what is the indication for instrumental delivery? 1. Prolonged SSOL 2. Maternal exhaustion 3. Fetal distress 4. Other specify _____
14.	What was duration of SSOL in hour? _____
15.	Have you received any pain-relieving medications in SSOL? 1. Yes 0. No
16.	If yes to Q 15 which pain relieving medicine were you given? 1. Epidural 2. Para-cervical 3. Pudendal block 4. Opioid/Narcotic 5. Sedatives 6. Other_____
17.	Was there documentation of NRFHRP during labor? Hint- Refer to maternal labor follow chart to answer this question. 1. Yes 0. No
18.	What is the fetal presentation on admission? (see maternal chart) 1. Vertex 2. Breech 3.Face
19.	If the answer to above question is vertex is the fetal head position in SSOL known?(see maternal chart or ask birth attendant) 1. Yes 0. No
20.	What was the fetal position at birth? (information should be collected from birth attendant or delivery summary)

	1, Occipito-anterior 2. Occipito-posterior 3. Occipito-transverse 4. others pecify_____
21.	Was there tear or episiotomy incision during previous deliveries? 1. Yes 0. No
22.	Did you have an episiotomy during current delivery? 1. Yes 0. No
23.	If Yes to Q-20, did you gave a consent for the procedure? 1. Yes 0. No
24.	If this is not your first birth, have you had C/S before?(skip if she is primigravid) 1. Yes 0. No
Maternal and fetal Factors	
25.	Estimated fetal weight in grams (the information should be obtained from delivery summary or registry book) 1. <1500gm 2. 1500-2499gm 3. 2500-3999gm 4. >4000gm
26.	What is the BMI of the mother? (calculate by dividing pre-pregnancy weight by height squared) 1. <18.5kg/m ² 2. 18.5-24.9 kg/m ² 3. 25-29.9 kg/m ² 4. 30-34.9 kg/m ² 5. 35.39.9 kg/m ² 6. >40 kg/m ²
27.	Did you book for ANC during this pregnancy? 1. Yes 0. No
28.	If booked, where was the ANC follow-up place? 1. ARTH 2. Other Hospital 3. Local HC 4. Private Clinic
29.	Was the mother diagnosed with any medical condition currently?(refer to maternal chart) 1. Yes 0. No
30.	If yes to Question no 27 encircle all that are identified. A. CHF B. Asthma C. CHTN D. Hyperthyroidism E. DM F. other(specify)_____
31.	What was the APGAR score at 5th minute? (hint refer to delivery summary from mother chart) 1. <7 2. ≥ 7
32.	What is the gestational age at delivery?(either from early ultrasound or LMP)

	1. <37 weeks 2. 37-40wks+6days 3. 41-41wks+6days 4.>42 weeks 5. Unknown GA
Birth attendant related factors (Question 32-35 is for birth attendant)	
33.	What is your profession? 1. Obstetrician 2. Resident 3. Midwives 4. Medical intern 5. Other(specify)_____
34.	How often do you perform episiotomy in your practice? 1. Rarely 2. Sometimes 3. Usually 4. Routinely
35.	Through your practice what factors do you think influence performance of episiotomy? 1. Clinical guidelines/protocols 2. Patient's condition during labor 3. Experience and training 4. Patient's request or consent 5. Other(specify)
36.	How do you assess the necessity of episiotomy? 1. Rarely needed 2. routinely needed

Declaration of Investigator

I, Dr Gadisa Berhane, declare that this research is my original work in partial fulfillment of the requirements for specialization in gynecology and obstetrics to the best of my knowledge.

Name of investigator: Dr. Gadisa Berhane Signature: _____ Date: _____

Declaration of Advisors

We, the undersigned advisors, hereby attest that this research is our original work and has been prepared to the best of our knowledge. It is defended as a partial fulfillment of the requirements for specialization in gynecology and obstetrics by the specified student. We further confirm that the thesis has been reviewed and approved for research by us as the university advisor(s).

Date of Submission: _____

Primary Advisor: Name: _____ Signature: _____

Secondary Advisor: Name: _____ Signature: _____

Declaration of Examiners

We, the undersigned members of the board of examiners for the final open defense of Dr. Gadisa Berhane, have reviewed and assessed his research titled “Magnitude of Episiotomy Practice and Associated Factors Among Women Who Gave Birth at Health Facilities in Asella Town: A Cross-Sectional Study, Oromia, Ethiopia, 2025.” After evaluating the candidate, we hereby declare that the thesis is approved as partial fulfillment of the requirements for specialty degree in Obstetrics and Gynecology.

Internal examiner name	Signature	Date
_____	_____	_____

External examiner name	Signature	Date
_____	_____	_____

Department Head Approval

_____ Signature _____ date _____