

Contributing factors for episiotomy in primiparous women in a tertiary hospital in Perak, Malaysia

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ABSTRACT

Introduction: Episiotomy is a surgical incision of the perineum performed during vaginal delivery. Although previously routine, current evidence supports a selective approach due to associated maternal morbidity. Despite this, episiotomy remains common among primiparous women. This study aimed to determine the prevalence and contributing factors for episiotomy among primiparous women in a tertiary hospital in Perak, Malaysia.

Materials and Methods: A cross-sectional study was conducted using secondary data from the obstetric delivery registry of Hospital Raja Permaisuri Bainun, Ipoh. Records of primiparous women who underwent vaginal delivery with episiotomy between 1 January and 31 December 2024 were reviewed. Maternal demographics and clinical indications were analysed. Associations between demographic variables and type of episiotomy were assessed using chi-square tests.

Results: Of 346 eligible cases, 311 were analysed. Routine episiotomy accounted for 76.5% of cases, while 23.5% were selective. The most common indications for selective episiotomy were cord around the neck (45.2%) and preterm delivery (39.7%). No significant association was found between type of episiotomy and maternal age ($p=0.378$) or ethnicity ($p=0.981$).

Conclusion: Routine episiotomy remains the predominant practice among primiparous women in this tertiary Malaysian hospital. These findings highlight the need for institutional review and adherence to evidence-based selective episiotomy guidelines.

KEYWORDS:

Episiotomy; primiparous; tertiary hospital; obstetric practice; Malaysia

INTRODUCTION

Episiotomy is a surgical incision of the perineum performed during vaginal delivery to enlarge the vaginal opening and facilitate childbirth.¹ Historically, routine episiotomy was widely practiced with the intention of preventing severe perineal trauma, preserving pelvic floor function and improving neonatal outcomes. However, accumulating evidence has shown that routine episiotomy may increase maternal morbidity, including pain, haemorrhage, infection

and obstetric anal sphincter injury, without providing substantial benefits to either the mother or the neonate.² Selective mediolateral episiotomy has been reported to reduce the risk of severe perineal trauma in selected cases, particularly during operative vaginal delivery.^{3,4}

Current international guidelines advocate restrictive rather than routine use of episiotomy. The World Health Organization (WHO) recommends selective episiotomy as part of evidence-based intrapartum care for a positive childbirth experience.⁵ Similarly, the International Federation of Gynecology and Obstetrics (FIGO) supports restrictive use of episiotomy and discourages routine practice.⁶ Studies conducted in different countries have demonstrated considerable variation in episiotomy rates, reflecting differences in clinical practice, training and institutional policies.⁷⁻⁸ Several maternal and obstetric factors, including younger maternal age, primiparity, prolonged labour and increased fetal birth weight, have been associated with a higher likelihood of episiotomy.⁹⁻¹²

Despite international recommendations favouring selective episiotomy, the procedure continues to be commonly performed in many settings. In Malaysia, studies have reported variations in episiotomy practice among tertiary hospitals and suggested that selective mediolateral episiotomy may offer protection against spontaneous perineal trauma and obstetric anal sphincter injury.¹³ Nevertheless, local evidence regarding factors associated with episiotomy practice among primiparous women remains limited. Furthermore, differences in patient characteristics and institutional practices may contribute to variations in episiotomy rates and clinical outcomes.

Therefore, this study was undertaken to determine the prevalence of episiotomy and to identify maternal and clinical factors associated with its use among primiparous women in a Malaysian tertiary hospital. The findings of this study may provide valuable information to support evidence-based obstetric practice and contribute to strategies aimed at reducing unnecessary episiotomy and its associated maternal morbidity.

MATERIALS AND METHODS

Study Design and Setting

This cross-sectional study utilised secondary data from the obstetric delivery registry of Hospital Raja Permaisuri Bainun,

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Table I: Maternal demographic characteristics of primiparous women who underwent episiotomy (n = 311)

Variable	Routine episiotomy n (%)	Selective episiotomy n (%)	Total n (%)
Age group (years)			
18–25	71 (29.8)	18 (24.7)	89 (28.6)
26–35	122 (51.4)	38 (52.1)	160 (51.4)
36–45	8 (3.4)	2 (2.7)	10 (3.2)
Ethnicity			
Malay	156 (65.5)	48 (65.8)	204 (65.6)
Chinese	21 (8.8)	6 (8.2)	27 (8.7)
Indian	18 (7.6)	5 (6.8)	23 (7.4)
Orang Asli	15 (6.3)	4 (5.5)	19 (6.1)
Others	28 (11.8)	10 (13.7)	38 (12.2)

Data are presented as number (percentage).

Table II: Association between maternal demographics and type of episiotomy

Variable	χ^2	p-value
Age group	–	0.378
Ethnicity	–	0.981

p < 0.05 considered statistically significant.

Table III: Indications for selective episiotomy among primiparous women (n = 73)

Indication	n (%)
Cord around the neck	33 (45.2)
Preterm labour	29 (39.7)
Prolonged labour	5 (6.8)
Instrumental delivery	2 (2.7)
Fetal distress	1 (1.4)
Large fetal size	1 (1.4)
Shoulder dystocia	1 (1.4)
Others	1 (1.4)

Ipoh, a tertiary referral hospital in Perak, Malaysia, for the period 1 January to 31 December 2024.

Study Population

Primiparous women who delivered vaginally and underwent episiotomy during the study period were included. Multiparous women and those delivered by caesarean section were excluded.

Sample Size and Sampling

Based on a finite population of 3,385 primiparous vaginal deliveries, a minimum sample size of 346 was calculated using OpenEpi (95% confidence level, 5% margin of error). Simple random sampling was applied. After exclusion of incomplete records, 311 cases were analysed.

Data Collection

Extracted variables included maternal age, ethnicity, gestational age, labour characteristics, and indications for episiotomy. Episiotomy was classified as routine or selective based on documented clinical indications. A random 10% of records was rechecked for data accuracy.

Statistical Analysis

Data were analysed using SPSS version 29. Descriptive statistics were presented as frequencies and percentages. Associations between maternal demographics and type of episiotomy were analysed using Pearson’s chi-square or Fisher’s exact test. A p-value <0.05 was considered statistically significant.

Ethical Approval

Ethical approval was obtained from the Ethical Committee of the Faculty of Medicine, Universiti Kuala Lumpur – Royal College of Medicine Perak. Permission to access medical records was obtained from the Clinical Research Centre and hospital administration. Patient confidentiality was maintained.

RESULTS

Prevalence of Episiotomy Practice

Among the 311 primiparous women analysed, 238 (76.5%) underwent routine episiotomy, while 73 (23.5%) underwent selective episiotomy. [Table I]

Maternal Demographics

Most women were aged 26–35 years. Malay women constituted the majority (65.6%). Routine episiotomy predominated across all age groups and ethnicities. [Table I] Association Between Demographics and Type of Episiotomy No statistically significant association was observed between maternal age group and type of episiotomy (p = 0.378), nor between ethnicity and type of episiotomy (p = 0.981). [Table II]

Indications for Selective Episiotomy

Among selective episiotomy cases, the most common indications were cord around the neck (45.2%) and preterm labour (39.7%). Other indications were infrequent. [Table III]

DISCUSSION

This study demonstrated that routine episiotomy remains highly prevalent among primiparous women in a Malaysian tertiary hospital despite current recommendations favouring selective use. Maternal age and ethnicity were not significantly associated with episiotomy practice, suggesting that clinical decision-making may be influenced more by institutional practice patterns and healthcare providers' preferences than by maternal demographic characteristics. Variations in episiotomy rates across different settings have been reported previously, reflecting differences in clinical protocols, training and obstetric practices.⁷⁻⁸

The high prevalence of routine episiotomy observed in the present study is inconsistent with current evidence and international recommendations advocating restrictive use. The World Health Organization and the International Federation of Gynecology and Obstetrics recommend selective rather than routine episiotomy because routine use has been associated with increased maternal morbidity without significant neonatal benefit.⁵⁻⁶ Similarly, population-based studies and systematic reviews have demonstrated that changes in clinical practice and adherence to evidence-based guidelines are important determinants of declining episiotomy rates.⁷⁻⁸

The common indications for selective episiotomy in this study included cord around the neck and preterm delivery, reflecting clinicians' concerns regarding expedited delivery and prevention of fetal compromise. However, previous studies have shown that routine episiotomy does not necessarily improve neonatal outcomes and should be reserved for specific obstetric indications.^{2,14} These findings further support the recommendations advocating restrictive episiotomy practice.⁵⁻⁶

The absence of a significant association between episiotomy type and maternal age or ethnicity suggests that episiotomy practice may be largely provider-driven rather than individualised according to patient characteristics. Similar observations have been reported in studies from Africa, where clinicians' experience, training and institutional protocols were found to influence episiotomy rates.^{11,15} Strengthening adherence to evidence-based guidelines and promoting selective episiotomy based on objective clinical indications may therefore help minimise unnecessary maternal morbidity. Furthermore, mediolateral episiotomy has been shown to reduce the risk of obstetric anal sphincter injury, particularly during operative vaginal delivery, supporting its selective use when clinically indicated.³⁻⁴

Although maternal age was not significantly associated with episiotomy practice in the present study, previous studies have reported higher episiotomy rates among younger primigravida women, possibly because of reduced perineal compliance and concerns regarding severe spontaneous perineal tears.¹² Ethnicity was also not found to be a significant determinant in this study. Nevertheless, variations in obstetric practice and differences in maternal characteristics may contribute to differences in episiotomy rates among diverse populations. Local evidence from Malaysian tertiary hospitals has suggested that selective

mediolateral episiotomy may provide protection against spontaneous perineal trauma and obstetric anal sphincter injury.¹³

Clinical factors such as increased fetal size and prolonged labour were associated with episiotomy use, findings that are consistent with previous reports.^{9-10,15} Increased fetal size may impose greater mechanical stress on the maternal perineum, whereas prolonged labour may prompt clinicians to perform episiotomy to facilitate delivery and reduce the risk of fetal compromise.¹⁶ These observations highlight the continuing role of clinical judgement in obstetric decision-making and reinforce the importance of adopting a selective and evidence-based approach to episiotomy practice.

Overall, the findings of this study highlight the need for continued reinforcement of evidence-based guidelines, regular professional education and clinical audit mechanisms to reduce unnecessary episiotomy and its associated maternal morbidity. Greater emphasis on restrictive rather than routine episiotomy practice may improve maternal outcomes and align local obstetric practice with current international recommendations.^{5,6,8} Further multicentre studies are warranted to evaluate contemporary episiotomy practices in Malaysia and to identify strategies that may facilitate greater adherence to evidence-based recommendations.

LIMITATIONS

The retrospective design and reliance on secondary data limited assessment of certain clinical variables. As a single-centre study, generalisability is limited. Multi-centre prospective studies are recommended.

CONCLUSION

Routine episiotomy remains the predominant practice among primiparous women in this tertiary hospital. No association was found between episiotomy practice and maternal age or ethnicity. Institutional review and adherence to selective episiotomy guidelines are warranted.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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