



ORIGINAL ARTICLE

Frequency and impact of contributing factors for episiotomy use in multiparous women in Liaquat Memorial Hospital Kohat.

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ABSTRACT... Objective: To determine the frequency of episiotomy use in multiparous women and assess its association with demographic, obstetric, and clinical factors. **Study Design:** Cross-sectional study. **Setting:** Department of Obstetrics and Gynecology, Liaquat Memorial Hospital, Kohat. **Period:** 18th May 2024 to 18th November 2024. **Methods:** A total of 146 multiparous women aged 18–40 years were enrolled using non-probability consecutive sampling. Data on age, BMI, gestational age, socioeconomic status, education, occupation, comorbidities (diabetes, hypertension), and predisposing factors (fetal position, obesity, previous episiotomy/C-section) were collected. Episiotomy rates and associations were analyzed using IBM SPSS version 25, with Chi-square/Fisher's exact tests ($p \leq 0.05$ considered significant). **Results:** Episiotomy was performed in 80 women (54.8%). Significant associations were found with BMI ($p=0.002$), gestational age >38 weeks ($p=0.005$), hypertension ($p=0.008$), and employment ($p=0.016$). No significant links were observed with age, diabetes, education, or socioeconomic status ($p > 0.05$). Predisposing factors included previous episiotomy (35.6%), obesity (20.5%), and occipito-posterior fetal position (17.8%). **Conclusion:** Episiotomy was frequently performed in multiparous women, with higher likelihood in overweight/obese, hypertensive, employed, and late-term pregnancies. Evidence-based guidelines are needed to optimize selective use.

Key words: Episiotomy, Multiparous Women, Obstetric Interventions, Perineal Tears, Risk Factors.

INTRODUCTION

Childbirth is a transformative and remarkable event in a woman's life, representing a complex interplay of physiological, emotional, and psychological factors. One of the most common obstetric interventions during vaginal delivery is episiotomy, a surgical incision made in the perineum to facilitate the passage of the baby's head.¹ Episiotomy has long been a subject of debate and concern within the medical community and among expectant mothers. The episiotomy is a surgical procedure that was initially developed to lessen the likelihood of serious perineal tears occurring during the second stage of labor.¹

In order to facilitate difficult deliveries, the general plan is to make a controlled incision in the perineum. This results in an enlargement of the vaginal aperture. When opposed to unmanaged

vaginal trauma, the ideal outcome of an episiotomy would be to alleviate pressure on the perineum, which would result in an incision that could be quickly repaired.² The mediolateral, the j-shaped, and the median episiotomy incisions are the three different forms of episiotomy incisions.³

Only a few studies have been done to illustrate the usefulness of episiotomy for selected procedures. The establishment of a selective episiotomy policy in women experiencing non-operative vaginal delivery resulted in significantly fewer women with severe perineal injuries when compared to women who received regular episiotomy.⁴ On the other hand, there is not yet any conclusive data to back up the claims that it is beneficial when used as a standalone elective surgery.⁵

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There are a few different factors that have been linked to an increased risk of an episiotomy being performed on a multiparous woman.⁶ There is a relationship between the utilization of forceps or a vacuum during a vaginal delivery and an increased risk of an episiotomy.⁷ In addition, shoulder dystocia, macrosomia, and the occipito-posterior position of the fetus all contribute to an increased risk of shoulder dystocia.⁸ According to a study, frequency of episiotomy practice was reported to be (41.8%) in multiparous women⁹, and factors leading to episiotomy were observed to be as occipito-posterior position (28.6%), obesity (23.7%), previous episiotomy (9.2%), and previous C-section (5.2%).¹⁰

The episiotomy use in multiparous women is influenced by a multidimensional interplay of factors. Regional or institutional practices, obstetric guidelines, and the prevailing culture in a healthcare setting can influence the rate of episiotomy usage. As there is a scarcity of literature on this topic on regional level, therefore the goal of this study is to determine the frequency and the factors leading to episiotomy in multiparous women in Liaquat Memorial hospital Kohat. The result of this study will be helpful in shed light on the optimal use of episiotomy, which will require a nuanced and individualized approach, balancing the potential benefits of reducing severe perineal tears with the risks and potential adverse effects. As the field of obstetrics continues to evolve, a deeper understanding of these factors is essential for providing the best possible care to multiparous women during childbirth.

OBJECTIVE

The objective was to determine the frequency and associated factors leading to episiotomy use in multiparous women

METHODS

This cross-sectional study was conducted at the Department of Obstetrics and Gynecology, Liaquat Memorial Hospital, Kohat, from 18th May 2024 to 18th November 2024 following approval of the research synopsis by the College of Physicians and Surgeons Pakistan (CPSP/REU/OBG-2022-303-11565 Dated: 17/5/24).

The sample size was calculated using the WHO sample size calculator, assuming an anticipated frequency of episiotomy of 41.8% in multiparous women, with a 95% confidence level and a margin of error of 8%, resulting in a required sample size of 146.¹⁰ Participants were selected using a non-probability consecutive sampling technique. Inclusion criteria included multiparous women aged 18–40 years who met the operational definitions. Women who were unconscious, mentally unstable, or unwilling to provide consent were excluded.

After ethical approval from the hospital's review board and CPSP, eligible participants were briefed about the study's purpose and procedures. Written informed consent was obtained. Demographic data including age, BMI, occupation, education, socioeconomic status, and residence were recorded. Medical history regarding diabetes and hypertension was also documented. All evaluations were carried out under the supervision of a consultant obstetrician with at least five years of post-fellowship experience. Data were recorded on a pre-designed proforma.

Data were analyzed using IBM SPSS version 25. The Shapiro-Wilk test was used to assess the normality of numerical data. Means and standard deviations or medians and interquartile ranges were calculated for continuous variables, while frequencies and percentages were used for categorical variables. Stratification was performed to control for effect modifiers including age, gestational age, BMI, diabetes, hypertension, occupation, education, socioeconomic status, and residence. Post-stratification, the Chi-square test or Fisher's exact test was applied as appropriate, with a p-value ≤ 0.05 considered statistically significant. Results were presented in tabular form.

RESULTS

The study included 146 participants, with a mean age of 31.6 ± 3.91 years. A total of 67 women (45.9%) were aged between 18–30 years, while 79 (54.1%) were between 31–40 years. The mean BMI was 27.06 ± 4.01 kg/m², and the mean gestational age was 271.75 ± 6.67 days (approximately 38

weeks and 5 days). In terms of socioeconomic status, 106 participants (72.6%) belonged to the middle class, 38 (26.0%) to the lower class, and only 2 (1.4%) to the upper class. Most women were literate (88, 60.3%), while 58 (39.7%) were illiterate. A majority were unemployed (93, 63.7%), with the remaining 53 (36.3%) employed. The majority of participants resided in urban areas (110, 75.3%), whereas 36 (24.7%) were from rural settings. Regarding comorbidities, 52 participants (35.6%) had diabetes mellitus and 60 (41.1%) had hypertension. Episiotomy was performed in 80 women (54.8%), while 66 women (45.2%) did not undergo episiotomy. Among the predisposing factors evaluated, 52 women (35.6%) had a history of previous episiotomy, 38 (26.0%) had undergone a previous cesarean section, 30 (20.5%) were obese, and 26 (17.8%) had an occipito-posterior fetal position. (Table-I)

Variable	Categories	n (%)
Age (years)	Mean $\pm$ SD	31.6 $\pm$ 3.91
BMI (kg/m ²)	Mean $\pm$ SD	27.06 $\pm$ 4.01
Gestational Age (days)	Mean $\pm$ SD	271.75 $\pm$ 6.67
Socioeconomic Status	Low Class (LC)	38 (26.0%)
	Middle Class (MC)	106 (72.6%)
	Upper Class (UC)	2 (1.4%)
Education	Literate	88 (60.3%)
	Illiterate	58 (39.7%)
Occupation	Employed	53 (36.3%)
	Unemployed	93 (63.7%)
Residence	Urban	110 (75.3%)
	Rural	36 (24.7%)
Diabetes Mellitus	Yes	52 (35.6%)
	No	94 (64.4%)
Hypertension	Yes	60 (41.1%)
	No	86 (58.9%)
Episiotomy	Yes	80 (54.8%)
	No	66 (45.2%)
Predisposing Factors	Occipito-Post Position	26 (17.8%)
	Obesity	30 (20.5%)
	Previous Episiotomy	52 (35.6%)
	Previous C-Section	38 (26.0%)

Table-I. Baseline characteristics of study participants (n = 146)

In the analysis of factors associated with episiotomy, no significant association was found with age. Among women aged 18–30 years, 39 (48.8%) underwent episiotomy, compared to 41 (51.2%) among those aged 31–40 years ($p=0.445$). BMI category was significantly associated with episiotomy ($p=0.002$). Among normal-weight women, only 13 (16.3%) had an episiotomy compared to 45 (56.3%) in the overweight group and 22 (27.5%) in the obese group. Gestational age was also significantly associated with episiotomy ($p=0.005$). Women with a gestational age over 38 weeks had a higher rate of episiotomy (68, 85.0%) compared to those with 38 weeks or less (12, 15.0%). Socioeconomic status showed no significant association with episiotomy ($p=0.160$). Among women from the middle class, 56 (70.0%) had an episiotomy, while 24 (30.0%) of those from the lower class underwent the procedure. Education was not significantly associated with episiotomy ($p=0.545$). Among literate participants, 50 (62.5%) received an episiotomy versus 30 (37.5%) of illiterate participants. Occupation showed a statistically significant association with episiotomy ($p=0.016$). Employed women had a higher rate of episiotomy (36, 45.0%) compared to 44 (55.0%) among the unemployed. Residence did not show a significant association ($p=0.099$), though urban women had a higher episiotomy rate (56, 70.0%) compared to rural women (24, 30.0%). There was no significant difference in episiotomy rates between diabetic (27, 33.8%) and non-diabetic women (53, 66.3%) ($p=0.604$). However, hypertension was significantly associated with episiotomy ($p=0.008$); among hypertensive women, 25 (31.3%) underwent episiotomy versus 55 (68.8%) of non-hypertensive women. (Table-II)

DISCUSSION

In this cross-sectional study, the frequency of episiotomy among multiparous women was found to be 54.8%, while previous study shows the rate of episiotomy is estimated to be 41.7% in African countries¹¹, 52.0% in Turkey¹², 66.0% in Oman¹³, 51.6% in Yemen¹⁴, 41.5% in Iran¹⁵, 50.47% in Pakistan¹⁶, and 63.4% in India.¹⁷

Variable	Categories	Episiotomy Yes n (%)	Episiotomy Non (%)	P-Value
Age Group	18–30 years	39 (48.8%)	28 (42.4%)	0.445
	31–40 years	41 (51.2%)	38 (57.6%)	
BMI Category	Normal	13 (16.3%)	28 (42.4%)	0.002
	Overweight	45 (56.3%)	26 (39.4%)	
	Obese	22 (27.5%)	12 (18.2%)	
Gestational Age	≤38 weeks	12 (15.0%)	23 (34.8%)	0.005
	>38 weeks	68 (85.0%)	43 (65.2%)	
Socioeconomic Status	LC	24 (30.0%)	14 (21.2%)	0.160
	MC	56 (70.0%)	50 (75.8%)	
	UC	0 (0.0%)	2 (3.0%)	
Education	Literate	50 (62.5%)	38 (57.6%)	0.545
	Illiterate	30 (37.5%)	28 (42.4%)	
Occupation	Employed	36 (45.0%)	17 (25.8%)	0.016
	Unemployed	44 (55.0%)	49 (74.2%)	
Residence	Urban	56 (70.0%)	54 (81.8%)	0.099
	Rural	24 (30.0%)	12 (18.2%)	
Diabetes Mellitus	Yes	27 (33.8%)	25 (37.9%)	0.604
	No	53 (66.3%)	41 (62.1%)	
Hypertension	Yes	25 (31.3%)	35 (53.0%)	0.008
	No	55 (68.8%)	31 (47.0%)	

Table-II. Association between episiotomy and patient characteristics

This elevated rate may reflect institutional practice patterns or clinician preference, particularly in a setting where standardized guidelines for restrictive episiotomy use may not be uniformly applied. In contrast, studies conducted in USA and Ethiopia reported significantly lower episiotomy rates of 9.7%, suggesting a more selective approach to its use in those healthcare systems.¹⁸

BMI showed a statistically significant association with episiotomy in this study ($p=0.002$), with a higher frequency observed among overweight (56.3%) and obese women (27.5%). This finding is consistent with previous literature, where Shalabna E et al. also identified a higher incidence of episiotomy in women with elevated BMI.¹⁹

Gestational age greater than 38 weeks was significantly associated with episiotomy

($p=0.005$), in agreement with Ballesteros-Meseguer C et al., who reported increased rates of episiotomy in term and post-term pregnancies.²⁰

Hypertension was also significantly associated with episiotomy ($p=0.008$) in our study. Similar findings were reported by Azu TD et al., where hypertensive women were more likely to undergo interventions, including episiotomy.²¹

Occupation was another significant factor, with employed women undergoing episiotomy more frequently ($p=0.016$). While this association is less commonly discussed in the literature, it may reflect differences in physical activity levels, healthcare access, or antenatal care engagement. Variables such as age, socioeconomic status, education, residence, and diabetes mellitus did not show statistically significant associations with episiotomy in this study. However, other studies have reported contrasting results, particularly

linking lower educational levels and younger maternal age with higher intervention rates, indicating regional practice variations.²²

Overall, the findings suggest a relatively high frequency of episiotomy among multiparous women, with significant associations observed for BMI, gestational age, hypertension, and occupational status. These results emphasize the need for adopting standardized, evidence-based guidelines to ensure selective and justified use of episiotomy. Furthermore, targeted training and institutional audits may help optimize clinical decision-making and reduce unnecessary maternal morbidity associated with routine episiotomy use.

This study was limited by its single-center design and non-probability consecutive sampling, which may affect the generalizability of the results. Additionally, subjective clinical judgment, which often guides the decision to perform an episiotomy, may introduce variability not captured in the quantitative analysis. Future multicenter studies with standardized clinical protocols are recommended to validate these findings and guide policy implementation.

CONCLUSION

Episiotomy was frequently performed in multiparous women, with higher likelihood in overweight/obese, hypertensive, employed, and late-term pregnancies. Evidence-based guidelines are needed to optimize selective use.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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AUTHORSHIP AND CONTRIBUTION DECLARATION	
1	Anam Usman: Manuscript writing, drafting, data collection, proof reading, statistical analysis.
2	Musarat Jabeen: Data collection, statistical analysis, design.