

ORIGINAL ARTICLE

# Frequency of Infected Episiotomy in Primigravida Women After Vaginal Delivery

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## Abstract:

**Introduction:** Episiotomy is a very common procedure executed at the time of normal delivery to avoid perineal tears and lacerations. Its rates vary considerably, ranging from 83% in primigravida to 71% in multigravida. The episiotomy rate in the United States is 50%, in Sweden it is 30%, and in England and Wales it is reported to be 53%. It is primarily used to prevent perineal tears of the third and fourth degrees, thereby preserving the muscles of the perineum. Some research suggests that it may reduce the risk of cerebral trauma in babies. The objective of the study is to find out the frequency of infected episiotomy among primigravida women, as infected episiotomy is rarely studied and these infections can put extra burden not only on hospital resources but also on the patient herself. The study will give us local, fresh evidence of infected episiotomies which will help in making policies for a number of benefits. This, in turn, will reduce posterior perineal trauma, suturing, and the associated complications. It will also decrease the pain due to suturing and the resulting medications taken for vaginal or perineal trauma. Such policies and recommendations will greatly help local gynecologists.

**Objective:** To determine the frequency of infected episiotomy in primigravida women after vaginal delivery.

**Study Settings:** Department of Obs & Gynae, MTI-HMC, Peshawar.

**Duration:** From 28 Dec, 2018 to 28 Jun, 2019.

**Study Design:** Randomized Control Trial. All patients were subjected to complete history, physical and vaginal examination, and routine investigation, including ultrasound. All patients were prepared for labor.

During labor, instrumental assisted delivery was excluded at that very moment. Labor procedures were performed by an expert obstetrician fellow of CPSP with more than five years' experience. After episiotomy was done, all patients were followed up on the 7th day. The cultures were sent only of the infected patients for confirmation of infected episiotomy having a wound or the are around it becoming a red, painful (VAS Pain Score>5), swollen area, with pus, or foul smell from the wound.

**Results:** The mean and standard deviation for Age was 25+3.75. The mean and SDs for Gestational Age were 35+1.53, and 97 (64.23%) patients were between the ages of 18 and 25. In the 2635 years age gap, 54 (35.76%) patients were recorded. In our study, 16 (10.59%) patients had an infected episiotomy.

**Conclusion:** In this study, we concluded that primigravida are more susceptible to having infected episiotomies.

**Keywords:** Episiotomy, Prevalence, Vaginal deliveries.

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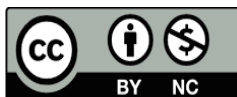
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## Introduction

Episiotomy is one of the most common procedures in obstetrics. It is an incision made in the perineum during the second stage of labour to widen the vaginal diameter in order to facilitate childbirth<sup>1</sup>. Episiotomy is more commonly used in Latin America than in Europe. Its prevalence is highest in Taiwan (100%) and lowest in Sweden (9.7%)<sup>2</sup>. An episiotomy is thought to benefit mothers by reducing third and fourth degree perineal tearing and preserving

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the perineal floor muscles. Although there isn't a significant benefit mentioned for the infant, it may lessen the likelihood of cerebral trauma<sup>3</sup>. There is insufficient evidence to support the routine use of episiotomies in primigravida and multigravida, and studies and recommendations imply that these procedures may increase blood loss, infection rates, and third- and fourth-degree perineal tears. Despite the availability of evidence-based recommendations, a large percentage of low-risk primigravida continue to undergo episiotomies<sup>4</sup>. According to one study, issues with early postpartum perineal healing following episiotomy, notably scarring, asymmetry, and pain, occur in 11% of women who have the procedure and may need to be repaired or re-sutured<sup>5</sup>.

At the same time that evidence was mounting that episiotomy was the source of serious perineal lacerations, several lines of research into the consequences of these lacerations as well as other long-term effects associated with episiotomy existed<sup>6</sup>. The effect of severe obstetric tears on the emergence of rectal incontinence has been assessed in a number of studies. Many studies have found that women who have suffered severe obstetric lacerations have more rectal incontinence during the first postpartum year<sup>7</sup>.

Recently published studies provided more insight on the long-term effects of severe perineal lacerations on rectal incontinence. In a survey comparing "regular" and "restrictive" episiotomies, Fritel et al. observed that the "routine" group experienced greater flatus incontinence four years after delivery<sup>8</sup>.

In 2007, a small cohort study was conducted on women with anal sphincter disruption over a period of 15 to 25 years. All females underwent normal vaginal delivery with complications like severe obstetric lacerations, and 15% reported bowel incontinence, while complications in the control group were less than 1%<sup>9</sup>. Sorensen observed women for 5 to 10 years following delivery and discovered that those with a fourth-degree laceration had a statistically significant increased risk of having recurrent flatus incontinence and loose stools<sup>10</sup>.

Other episiotomy side effects studied include dyspareunia and sexual dysfunction, urinary incontinence, and pelvic floor relaxation or prolapse<sup>11</sup>. Several studies include data on the effects of episiotomy on the development of dyspareunia, urinary incontinence, or pelvic floor dysfunction at intermediate time points

(between 3 and 12 months postpartum). In a large prospective study, women who had median episiotomies reported more perineal pain than those who had an intact perineum or a spontaneous laceration, both immediately after delivery and three months later. Women with an intact perineum or spontaneous tears had better sexual function than those with episiotomies or severe (third or fourth degree) lacerations.<sup>12</sup>

There have been initiatives in developed nations to limit the use of episiotomies. Nonetheless, the incidence of episiotomies remains high in developing nations<sup>13</sup>.

Rather than the most recent medical data, episiotomy was motivated by prior training, practitioner experience, and local conventions. The primary training targets are senior clinicians and clinicians in secondary hospitals. The need for obstetricians and midwives' current clinical policy and surgical procedure standards addressing episiotomy is critical<sup>14</sup>.

### **Methodology**

From December 18th, 2018 to June 18th, 2019, a descriptive case study was conducted in the department of obstetrics and gynecology at Hayatabad Medical Complex in Peshawar. Approval was taken from the hospital's ethical and research committee of CPSP. Using consecutive (non-probability) sampling, 151 patients were selected, keeping an 11% proportion of infected episiotomies, a 95% confidence interval, and 5 margin of significance under WHO software for sample size determination.

For sample selection, all primigravida women, ages 18–35, and who had undergone vaginal delivery with an episiotomy were selected. Those women who delivered their babies through a caesarean section, twin deliveries, or instrumental vaginal deliveries such as a vacuum or breech vaginal delivery were excluded. All patients meeting the inclusion criteria were included in the study through the gynecology outpatient department. The patient was informed about the study's purpose and benefits, and she was reassured that it was being conducted solely for research and data publication. Written informed consent was also obtained from all patients.

All patients were then subjected to a complete history, vaginal and physical examination, and routine investigation, including ultrasound. Patients were then prepared for labor. During labor, instrumental assisted

delivery was excluded at that very moment. Labor procedures were performed by an expert obstetrician fellow of CPSP with more than five years of experience. Following episiotomy, all patients were followed up on the seventh day, and only infected patients had cultures sent for confirmation of an infected episiotomy having a wound or the area around it becoming red, painful (VAS Pain Score > 5), swollen, and smelling of pus, or the wound itself. All the above-mentioned information was recorded in a predesigned proforma.

**Data analysis procedure:**

Data was entered and analyzed in SPSS Version 22.0. Mean and SD were calculated for quantitative variables like age, gestational age, parity and gravidity. For categorical variables such as a culture test and an infected episiotomy, frequencies and percentages were calculated. Infected episiotomy was stratified among age, gestational age, parity, and gravidity in order to ascertain effect modifiers. A post-stratification chi-square test was applied, keeping a P-value of <0.05 significant. All results were presented in the form of tables.

**Results:**

**Table 1:** The mean and standard deviation for gestational age (n=151)

Gestational age	Infected episiotomy		P value
	Yes	No	
< 35 weeks	05 (3.31%)	49 (32.45%)	0.690
>35 weeks	11 (7.28%)	86 (56.95%)	

**Table 2:** The age distribution of 151 patients

Continuous Variables	Mean	Percentages
Age	25	3.75
Gestational Age	35	1.53

The mean and standard deviations for age among the 151 patients recruited were 25 + 3.75. The gestational age mean and standard deviations were 35 + 1.53 (Table 1). 97 (64.23%) of the patients were between the ages of 18 and 25. 54 (35.76%) patients were recorded in the 26–35 year age group (Table 2). In our study, 16 (10.59%) patients had an infected episiotomy (Table 3). Stratification of infected episiotomies with respect to age and gestational age was recorded at Tables 4 and 5, respectively.

**Table 3:** Distribution of patients with infected episiotomy (n=151)

Age Group	Frequen-	Percentages
18- 25 years	97	64.23%
26- 35 years	54	35.76%
Total	151	100%

**Table 4:** Stratification of patients with infected episiotomy with age

Infected episiotomy	Frequencies	Percent-ages
Yes	16	10.59%
No	135	89.40%
Total	151	100%

**Table 5:** Stratification of patients with infected episiotomy with gestational age.

Age groups	Infected episiotomy		P value
	Yes	No	
18- 35 years	10 (6.62%)	87 (57.61%)	0.878
26- 35 years	06 (3.97%)	48 (31.78%)	

**Discussion**

The woman's body experiences traumatic stress during child birth. Episiotomies have been used by obstetricians to deliver babies with less perineal damage. Despite the debate surrounding its use, episiotomy is still a routine procedure<sup>15</sup>.

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The study showed that the prevalence of infected episiotomy in primigravida is 16 (10.59%). Similar results can be seen in a study conducted in Netherland, where 8% of patients undergoing episiotomy developed infection<sup>16</sup>.

With an overall episiotomy rate of around 70%, it is one of the most commonly used procedures for women delivering in tertiary-level public hospitals in India<sup>17</sup>. In our study, the episiotomy rate among nullipara (85%) was comparable to that reported in a population-based cross-sectional study from Chennai (83.4%)<sup>18</sup>.

There is insufficient evidence to support the routine use of episiotomies in primigravida and multigravida, and studies and recommendations imply that these procedures may increase blood loss, infection rates, and third- and fourth-degree perineal tears. Despite the availability of evidence-based recommendations, a large percentage of low-risk primigravida continue to undergo episiotomies<sup>19</sup>. In our study, the mean and standard deviations for age were 25+3.75. The mean and standard deviations for Gestational Age were 35+1.53 (Table 1). In the age range of 18 to 25, 97 (64.23%) patients were recorded. In the 26-35 age groups 54 patients (35.76%) were recorded (Table 2). Infected episiotomies were recorded in 16 (10.59%) of the patients (Table 3).

Three studies were conducted in Nigeria. The first study, conducted in Zaria, showed that the overall episiotomy rate for vaginal deliveries was 35.6%, whereas in primigravida it was 88.5%. In another study conducted in Enugu, the episiotomy rate was 40.4% for all parities, whereas in primigravida it was 76.2%<sup>20</sup>. A recent report from Calabar reported a decrease in the episiotomy rate in vaginal delivery up to 20.1% for all parities<sup>17</sup>. In contrast to these studies, our research had a mean and SD for age of 25 + 3.75. Another Turkish study reported that episiotomy was performed in 92% of primipara women and 72% of multipara women, with a mean and SD for age of 25+3.75<sup>21</sup>.

This is consistent with our study where most of the patients undergoing episiotomy were between age 18 to 25 (64.23%) (Table 2).

According to one study, issues with early postpartum perineal healing following episiotomy, notably scarring, asymmetry, and pain, occur in roughly 11% of

women who had the procedure. These women could become infected or have their tissue damaged, necessitating re-suturing<sup>22</sup>. In our study 16 patients (10.59%) developed infected episiotomy (Table 3).

According to the WHO, episiotomies should only be used sparingly in uncomplicated deliveries. In the same study, it was also noted that restrictive episiotomy was superior to routine episiotomy since it resulted in less posterior perineal damage, fewer sutures, and fewer problems<sup>23</sup>. Another Turkish study reported that episiotomy was performed in 92% of primi-para women and 72% of multipara women, with a mean and SD for age of 25+3.75<sup>21</sup>.

### **Conclusion:**

This study led us to the conclusion that episiotomies were frequently performed, especially on primigravida women. Every medical staff who help with delivery should get in-service training that adapts episiotomy administration protocols and emphasizes the value of avoiding routine administration. Moreover, lowering the number of episiotomies during vaginal deliveries and promoting alternative practices like massage will help to lower the episiotomy rate.

### **Declaration**

#### **Conflict of Interest**

I declare that I have no conflict of interest.

#### **Funding**

I declare that I have no source of funding

#### **Data availability**

I declare that Data will be available on request.

#### **Ethical approval**

Obtained from all participants.

#### **Author's contributions**

SH was involved in the execution of the project. HS designed, executed the study and wrote the manuscript. SF helped in organization of data and writing. YH and N helped in the editing. All named authors have read and approved the final version of the manuscript.

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