

Episiotomy at the Asha'ab obstetric emergency center, Aden, Yemen: Prevalence, clinical profile, and complications

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ABSTRACT

Background and Objectives: Despite the controversies that prevail regarding the efficacy of episiotomy, it is still practiced widely around the world in various degrees of prevalence. This study aimed to identify and analyze the prevalence, clinical profile, and complications of episiotomy performed on women who delivered at the Asha'ab Obstetric Emergency Center. **Patients and Methods:** This was a cross-sectional study that involved women who had undergone vaginal delivery at the Asha'ab Obstetric Emergency Center, in Aden city, Yemen, between October 1, 2021, and March 31, 2022. Permission to conduct the study was obtained from the center's administrative office. **Results:** During the study period, 858 women delivered vaginally at our center. Out of these, 443 women had had an episiotomy, representing an episiotomy prevalence of approximately 51.6%. These 443 women were enrolled in this study. The episiotomy was more common among primigravida women (n=362, 81.7%), followed by multiparous women (n=42, 9.5%). The most commonly associated medical disorder was anemia (n=167, 37.7%), followed by hypertension (n=33, 7.4%). Perineal pain (n=51, 11.5%) was the most frequently reported post-episiotomy complication, followed by perineal discomfort (n=32, 7.2%), wound infection (n=27, 6.1%), perineal bleeding (n=18, 4.1%), difficulty in walking (n=9, 2.0%), wound dehiscence (n=3, 0.7%), and difficulty in defecation (n=1, 0.2%). **Conclusion:** The prevalence of episiotomy among women who gave birth at the Asha'ab Obstetric Emergency Center, in Aden city, Yemen, was higher than the World Health Organization recommendation, which is around 10% or less with acceptable obstetric evidence indicating the need. Further prospective large-scale studies are recommended to confirm the findings of this study.

Key words: Episiotomy, Post-episiotomy complications, Prevalence, Vaginal delivery, Yemen

Episiotomy is a vaginal and perineal surgical incision performed by a skilled birth attendant, to widen the vaginal opening during childbirth. It is the second most commonly performed surgical procedure among women of childbearing age, with variable prevalence worldwide [1,2]. Episiotomy is opted in case of emergencies during the second stage of labor such as fetal distress, obstructed labor, and delayed progress of labor due to tight perineum [3-5]. This procedure is highly opposed due to the lack of scientific evidence of its benefits, especially when opted as a routine [6]. Several studies have reported that episiotomy promotes bleeding and injury in the perineal region, promotes sphincter trauma, causes bowel incontinence and flatulence, and prolongs postpartum pain, among other complications [1-6]. There are different types of episiotomy incisions; however, the most commonly recommended and safest type is mediolateral episiotomy, in

which the incision is made in the midline but directly downward and then laterally away from the rectum [1,2,6].

In Yemen, data related to episiotomy, including its prevalence and frequency of complications, are sparse [7]. This study aimed to identify and analyze the prevalence, clinical profile, and complications of episiotomy among women who delivered at the Asha'ab Obstetric Emergency Center, in Aden city, Yemen.

PATIENTS AND METHODS

Design, Setting, and Population

This was a cross-sectional study involving women who had undergone vaginal delivery at the Asha'ab Obstetric Emergency Center, in Aden city, Yemen, between October 1, 2021, and March 31, 2022. The center provides emergency obstetric services mainly to women living in Aden Governorate. Permission to conduct the study was obtained from the center's administrative office.

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Sample Size

A prevalence “p” of 52% [8] was assumed for determining the sample size, which was calculated as 384, based on an absolute precision error (d) of 5% and a Type I error (α) of 5%. However, to ensure an accurate estimation of the population parameters, the sample size was increased to 443 patients, which included all the patients who met the inclusion criteria during the study period. Therefore, a complete enumeration was performed.

Data Source and Data Analysis

After reviewing the medical records of all the women who had delivered vaginally at the center, the following data were collected: Demographic data (age, occupation, and educational level) and clinical profile such as parity, associated medical disorders, labor-related factors, episiotomy-related factors, and antibiotic consumption details. We also recorded the post-episiotomy complications faced by the patients, such as perineal pain, perineal discomfort, wound infection, perineal bleeding, difficulty in walking, wound dehiscence, and difficulty in defecation.

For quantitative variables, the data were reported in the form of mean $\pm$ standard deviation (SD). Qualitative variables were presented as numbers and percentages. Data were analyzed using the SPSS version 20.0 for Windows (SPSS, Inc., Chicago, IL, United States of America [USA]).

RESULTS

Sociodemographic Characteristics of the Study Subjects

During the study period, 858 women delivered vaginally at our center. Out of these, 443 women who had had an episiotomy were enrolled in this study, representing an episiotomy prevalence of approximately 51.6%. All these women were married, with a mean age $\pm$ SD of 24.98 $\pm$ 4.60 (range: 16–24 years). Most of the women were housewives (n=390, 88.0%) and had secondary school level education (n=250, 56.4%). Table 1 describes the sociodemographic characteristics of the study subjects.

Clinical Characteristics of the Study Subjects

The episiotomy was more common among primigravida women (n=362, 81.7%), followed by multiparous women (n=42, 9.5%). The most commonly associated medical disorder was anemia (n=167, 37.7%), followed by hypertension (n=33, 7.4%). The most frequent labor-related complications in the cases were prolonged fetal membrane rupture (n=38, 8.6%) and prolonged second-stage labor (n=7, 1.6%). Episiotomy repair was performed commonly by senior residents (n=217, 48.9%), followed by junior residents (n=119, 26.9%), and less commonly by midwives (n=31, 7.0%). However, delayed repair was found in 8 (1.8%) cases. Antibiotics were given to 439 (99.1%) women. Table 2 describes the clinical characteristics of the study subjects.

Table 1: Socio-demographic characteristics of the study subjects

Variable	Frequency (%) / mean $\pm$ SD
Age (year)	24.98 $\pm$ 4.60 (16–24)
Occupation	
Professional	53 (12.0)
Non-professional (housewife)	390 (88.0)
Education level	
Primary education	8 (1.8)
Secondary education	250 (56.4)
Tertiary (college and above)	145 (32.7)
None	40 (9.1)

Table 2: Clinical characteristics of the study subjects

Variable	Frequency (%)
Parity	
Primigravida	362 (81.7)
Primipara	38 (8.6)
Multipara	42 (9.5)
Grand multipara	1 (0.2)
Associated medical disorders	
Diabetes mellitus	14 (3.2)
Hypertension	33 (7.4)
Anemia	167 (37.7)
Labor-related factors	
Prolonged first stage	2 (0.4)
Prolonged second stage	7 (1.6)
Prolonged third stage	1 (0.2)
Prolonged fetal membrane rupture	38 (8.6)
Episiotomy-related factors	
Repaired by midwife	31 (7.0)
Repaired by junior resident	119 (26.9)
Repaired by senior resident	217 (48.9)
Repaired by specialist	76 (17.2)
Delayed repair	8 (1.8)
Antibiotic therapy	439 (99.1)
Antibiotic duration	
3–5 days	308 (70.2)
6–10 days	125 (28.5)
>10 days	6 (1.3)

Post-episiotomy Complications

The frequency of post-episiotomy complications was 29.8% (n=132), with some patients having more than one complication. Perineal pain (n=51, 11.5%) was the most frequent post-episiotomy complication, followed by perineal discomfort (n=32, 7.2%), wound infection (n=27, 6.1%), perineal bleeding (n=18, 4.1%), difficulty in walking (n=9, 2.0%), wound dehiscence (n=3, 0.7%), and difficulty in defecation (n=1, 0.2%). Table 3 describes the post-episiotomy complications of the study subjects.

Table 3: Post-episiotomy complications

Complications	Frequency (%)
Perineal pain	51 (11.5)
Difficulty with walking	9 (2.0)
Perineal discomfort	32 (7.2)
Difficulty at defecation	1 (0.2)
Perineal bleeding	18 (4.1)
Wound infection	27 (6.1)
Wound dehiscence	3 (0.7)

DISCUSSION

When episiotomy was introduced in obstetric practice, there was no scientific evidence to prove its possible benefits. The practice became widespread in the 20th century. In 1983, a comprehensive research on the lack of scientific data on episiotomy and its potential effects, such as hematoma formation, perineal pain, infection, sexual dysfunction, and healing complications associated with the procedure, was conducted [1]. Cochrane reviews in developed countries have shown that restrictive episiotomy has several benefits such as less severe posterior perineal trauma, less suturing, fewer healing complications, and reduced risk of mother-to-child HIV transmission; however, this procedure increases the risk of anterior perineal trauma [9]. Episiotomy is associated with great discomfort for the mother, affecting her physical, psychological, and social well-being, which, in turn, can lead to problems in family life, breastfeeding, and sexual relations [10].

Despite its adverse effects, episiotomy is still practiced widely around the world, especially in developing countries. There is a wide variation in the frequency of episiotomy among all women who have had a vaginal delivery all over the world, from developed countries such as Denmark (4%) [11], the Netherlands (11%) [12], the USA (11.6%) [3], Canada, (17%) [13], and France, (20%) [14] to developing countries including Saudi Arabia (35%) [15], Nigeria (52.0%) [8], India (60%) [16], Uganda (73%) [17], Iraq (73.9%) [18], Yemen (75.1%) [7], and Cambodia (94.5%) [19]. In Taiwan, China, the rate of episiotomy was exceptionally high (100%) [20]. The rate of episiotomy recommended by the World Health Organization (WHO) is under 10% [21]. The prevalence of episiotomy in Yemen is unknown due to a lack of related studies. Most of the deliveries that took place in upcountry were performed at home and attended mostly by housewives [22]. The prevalence of episiotomy in our center was 51.6%, which is within the overall range mentioned in the literature. It is also lower than the rate reported by a previous study (75.1%) conducted at Al-Thawra General Hospital, Sana'a, Yemen [7]. However, this decline in the rate of episiotomy in our study is artificial, as Al-Thawra General Hospital is a tertiary center that caters to the whole country while our center caters mainly to Aden Governorate.

Variation in the frequencies of episiotomy depends on various factors such as the presence or absence of hospital policy, professional performing the delivery, and maternal characteristics.

The WHO suggests to follow a restrictive episiotomy policy instead of a routine practice of episiotomy without pertinent obstetric and maternal indication, due to the care provider's perception and attitude or misdiagnosis. Most developed countries have adopted policies to restrict the practice of episiotomy. However, in poor- and middle-income countries such as Yemen, there is a lack of policies or non-compliance with policies, which has resulted in high rates of episiotomy. In Yemen, the government does not take any efforts to provide adequate healthcare services to pregnant women, as it has spent a vast amount of its resources in the civil war. In this country, no protocol or policy exists to regulate the practice of episiotomy. In most cases, episiotomies were carried out without the women's consent, and they were not even made aware of what had happened until after the episiotomy.

Studies indicate that the main reasons for the high rates of episiotomy in poor- and middle-income countries are lack of training, local national norms, and fear of severe perineal injury [23]. In Yemen, the civil war has prompted many skilled healthcare workers to emigrate from the country in search of better salaries and more secure conditions [24]. The government is unable to qualify more health-care providers due to financial constraints. Non-governmental organizations are now playing a key role in providing the necessary resources for training health-care professionals. However, these efforts are highly insufficient to generate the required number of health-care providers.

The difference in the frequencies of episiotomy among different studies may also have been due to the characteristics of the study population. Many studies have indicated primiparity as an important reason for episiotomy. This finding was supported by studies conducted in Brazil [25], France [26], Uganda [17], Nigeria [8], and Ethiopia [27]. In congruence to these findings, our study too reported that 81.7% of our study population was comprised of primigravids. Alayande *et al.*, in their retrospective study in Nigeria, found that the absence of prior vaginal birth and nulliparity is significantly associated with episiotomy [28].

As noted, the present study revealed that pain and discomfort were the most frequent post-episiotomy complications, which is consistent with many reports published worldwide [8,15,17,27]. Wound infection is a recognized complication of episiotomy, which occurs due to the microbial flora of the mother's body (the vagina, gastrointestinal tract, and skin) or external microorganisms (infected medical personnel, poor surgical techniques, and infected delivery instruments and environment) [29]. There is little information on the prevalence of post-episiotomy infection, which varies in different countries and institutes. The prevalence of episiotomy wound infections in our study was 6.1% of cases, which is higher than the prevalence reported in two studies from Pakistan (0.04%) and Nigeria (1.9%) [8,30]. Although there is no clear evidence for the role of prophylactic antibiotics in preventing episiotomy wound infection [31], prophylactic antibiotics are still routinely prescribed in our center.

The main drawback of this study is its retrospective design, which limited our access to some variables due to incomplete data, including indications for episiotomy, and restricted the

scope of the study as the late complications of episiotomy could not be studied. Moreover, since this was a hospital-based study, we were unable to generalize the findings of the study.

CONCLUSION

The prevalence of episiotomy among women who gave birth at the Asha'ab Obstetric Emergency Center, in Aden city, Yemen, was higher than the WHO recommendation, which is around 10% or less, with acceptable obstetric evidence indicating the need. This emphasizes the importance of adopting local policies to regulate episiotomy practice in our country. Further prospective and large-scale studies are recommended to confirm the findings of this study.

AUTHORS' CONTRIBUTION

Khan NY proposed the idea, reviewed the literature, analyzed the data, and wrote the final manuscript. Naji SA aided in the data collection, literature review, and writing the manuscript. Both authors read the manuscript and agree to its publication.

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