

To Determine the Affecting Factors of Performing Episiotomy among Women Delivering Vaginally in King Salman Armed Forces Western Region Hospital (KSAFWRH)

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Abstract

Background: Episiotomy is the most common surgical incision in midwifery. It's important to study the frequency of episiotomy and its associated factors in women with spontaneous vaginal delivery SVD. Therefore, this study conducted to determine the prevalence of episiotomy and the affecting factors of performing episiotomy among delivering women in King Salman Armed Forces Hospital in Tabuk City, Saudi Arabia. **Methods:** This study is a descriptive "prospective" cross sectional design. Done among all women who are delivered with spontaneous vaginal delivery (SVD) in KSAFWRH labour and delivery ward. **Results:** Overall responders are 215 of total 300 research tools were analysed using SPSS 22 software. 132 the indication was prime parity, 66 were because of rigid perineum, while 63 were due to baby distress. The prime who had episiotomy due to prime parity were 132(91.06%), while the multi paras had episiotomy due to rigid perineum with 39(59.09%). There is a significant relation in the fetal distress and history of C/S and child birth attendance with most of the variables. **Conclusion:** The primary objectives of this study were to determine the prevalence of episiotomy and the affecting factors of performing episiotomy among delivering women. 300 research tool was distributed to midwives to fill for each active vaginal delivery case, excluded 93 paper due to incomplete data. Within 207 complete research tools findings are showing 132 the indication was prime parity, 66 were because of rigid perineum, while 63 were due to baby distress. The prime who had episiotomy due to prime parity were 132(91.06%), while the multi paras had episiotomy due to rigid perineum with 39(59.09%). Chi-Square test was applied to calculate the p-value, there is a significant relation in the fetal distress and history of C/S and child birth attendance with most of the variables.

Keywords: Episiotomy, Primigravida, fetal distress, labour, Saudi Arabia.

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BACKGROUND

Episiotomy is defined as perineum enlargement, surgically performed, with incision during the second period of labor, with a scissor or a scalpel blade and requiring suture for its correction [1]. During

labor, women are at risk for experiencing perineal trauma to the genitalia resulting in a tear of the perineum or the surgical process of an episiotomy. Knowing the prevalence and the risk factors associated with perineal trauma may help in the reduction of

episiotomy and prevention of occurrence of tear [2]. Episiotomy is the most common surgical incision in midwifery. It's important to study the frequency of episiotomy and its associated factors in women with SVD [3, 4].

The factors associated with the performance of episiotomy were prim parity, fetal distress, episiotomy history, the fact that the delivery was supervised by a physician [3]. Since the 1990s, this recommendation has been strongly challenged and classified as an inappropriately used practice. Currently, it is recommended that the episiotomy is performed selectively and the World Health Organization (WHO) proposes that its rate is set at around 15% to 30% [5].

Women are affected by perineal trauma in the intermediate postnatal period and can extend beyond this period. The impact of perineal trauma to women's physical, psychological, and social wellbeing may lead to negative effects on family life, disruption of breastfeeding, and sexual relations [2].

Perineal tears cause considerable post-natal morbidity. Identification of risk factors, vigilant monitoring and supervision by senior doctors during difficult deliveries and good perineal support is recommended for minimizing the risk of perineal trauma as well as morbidity [6]. Midwives therefore need to be aware of their responsibility to prevent unnecessary episiotomy procedures and re-examine the benefits [7].

With regard to severe perineal lacerations during vaginal delivery, there are multiple obstetric contributory factors despite routine episiotomy, among them, nulli-parity, longer labor duration, greater newborn head circumference, and instrument-assisted vaginal delivery. The latter should only be performed after careful evaluation [8].

Over the past two decades, a growing body of literature and increased advocacy efforts have led to a general consensus that episiotomy should not be conducted as a standard practice [9].

LITERATURE REVIEW

Women are affected by perineal trauma in the intermediate postnatal period and can extend beyond this period. The impact of perineal trauma to women's physical, psychological, and social wellbeing may lead to negative effects on family life, disruption of breastfeeding, and sexual relations [10].

Perineal tears cause considerable post-natal morbidity. Identification of risk factors, vigilant monitoring and supervision by senior doctors during difficult deliveries and good perineal support is recommended for minimizing the risk of perineal trauma as well as morbidity [6].

Perineal traumas were associated with factors such as age, parity, and birth weight [10]. In addition, the correspondence variances in risk factors such as episiotomy, infant weight, gestational diabetes and prolonged second stage warrant examined into clinical management. Though the rates vary internationally [11].

Aimed at a successful vaginal birth, vaginal and cervical expansion should occur slowly and the tissue should be allowed to stretch in a proper manner. At this time, spontaneous tears may ensue in rapid descent, particularly during the fetal head descent and the formation of vaginal dilatation [12].

Episiotomy is a risk factor for a vaginal tear [10]. It has been a component of vaginal delivery, with the justification of avoiding wide perineal tearing. Incidence shows a discrepancy according to parity, patient population, indication, and health care provider practicing obstetrics. Episiotomy was initially recommended to help in labor and deliveries and its routine performance began to be defined by Pomeroy in 1918. Throughout several years this routine practice was accepted and taught as an absolute fact in large obstetrics services [13].

A routine episiotomy policy was experienced at the turn of 20th century. This policy led to high rates of episiotomy in many countries, reaching 30% in Europe, 62.5% in the USA, 80% in Argentina and about 100% in Taiwan. The delivery assistant may perform episiotomy if severe fetal distress is suspected or on the clinical judgment that extensive perineal injury cannot be avoided [14].

The factors may lead to episiotomy are including; null parity, prolonged duration of labor, and large fetal head circumference, which all play important roles in the development of severe perineal lacerations. Finally, instrument-assisted vaginal deliveries should be selectively performed with caution whenever possible [8].

Yet, primi-parity was the only factor associated with its performance. The laceration was associated with primi-parity. Considering that the episiotomy was a second degree laceration, the lacerations were less harmful [5]. Only few primi-paras' women will have an intact perineum after spontaneous vaginal delivery (SVD) [15].

Although there is no data that analyzes the association between episiotomy and mild perineal trauma in primi- paras women with SVD [15]. The practice of episiotomy retained primi-parity, the existence of fetal distress, the antecedent of episiotomy, the private nature of motherhood, and the fact that delivery was supervised by a physician and other gentle obstetric maneuvers are to be explored [3].

It was also observed that presence of meconium, neonatal weight, parity, fetal presentation, mode of delivery; birth attendant and 1st minute Apgar score were significantly associated with performance of episiotomy practice [13].

However, a number of risk factors for episiotomy occur. Episiotomy does not protect nulliparous women, and may be associated with an increased risk for multiparous. Therefore, the practice of routine episiotomy should be abandoned, and the practice of selective episiotomy reconsidered [16].

Episiotomy may include short term complications such as perineal lacerations, hemorrhage and increased blood loss, wound site edema, wound site infection, sphincter and rectal mucosal damage, urethral injury, bladder injury, hematoma formation, and pain. While the long-term complications, chronic infections, urinary incontinence, pelvic organ prolapse, and sexual dysfunction [12]; thus, both technique and quality of care are of highly significant [4].

Indeed, the World Health Organization recommendation against routine episiotomy has started to show measurable decline in the rates of episiotomy in the developed countries [17]. According to WHO restrictive episiotomy to strict indications has many benefits such as less posterior perineal trauma, less need for suturing and fewer complication. Despite the fact that most common recommendation is for restrictive use of episiotomy to be performed only when indicated [9]. However, episiotomy still remains a common procedure in obstetrics though the incidence is declined [17].

Ahmed *et al.*, showed that the prevalence of episiotomy was found to be 73.9% which was much higher compared to the World Health Organization recommendation which should be 10%. Regarding also the prevalence of episiotomy in Saudi Arabia Kingdom, there is no available data. However, this rate is estimated to be high since this procedure is routinely performed at the hospitals [4].

Routine episiotomy should be avoided, but this does not mean that the procedure is suspended in all circumstances. In some situations, it prevents serious lacerations and may expedite delivery in fetus thought to be hypoxic. Where there is a clear indication. Selective use of episiotomy can result in a 30% reduction in vaginal and perineal injury [18].

A non-episiotomy protocol appears to be safe for mother and child, and highlights the need to investigate whether there is, in fact, any indication for this procedure [19].

The conduction of episiotomy is a questioned practice given the strong scientific evidence on its adverse effects [20]. Even though episiotomy is sparingly performed in vacuum deliveries, the avoidance of episiotomy for vacuum delivery cannot be considered to be medical malpractice [21].

Furthermore, the use of episiotomy should be an exception, especially in the context of women with unknown serology of HIV. Continuing education in emergency obstetric and neonatal care would be important for improving the quality of care in maternity wards [3].

Each woman has the right to the highest possible standard of healthcare, which includes the right to respectful health care during pregnancy and childbirth [22]. Force women assigned to 'no episiotomy', the perineum will possibly remain intact or tear spontaneously [14].

Further research is recommended to obtain relevant information from women as well as from midwives and to draw new, evidence-based conclusions related to the maternal benefits and adverse effects of episiotomy [7].

In addition, the conduction of episiotomy is a questioned practice given the strong scientific evidence on its adverse effects [20].

METHODOLOGY

The aim of this study is to determine the prevalence of episiotomy and the affecting factors of performing episiotomy among delivering women in KSAFWRH.

Research Objectives

- To determine the episiotomy prevalence among delivering women in KSAFWRH.
- To determine the affecting factors of performing episiotomy among women in KSAFWRH.

Study design: A descriptive "prospective" cross sectional design.

Study area: This study includes all SVD cases who attend KSAFWRH labor and delivery ward during Sunday to Thursday (24/7).

Study population: All women who are delivered with spontaneous vaginal delivery (SVD) in KSAFWRH labor and delivery ward.

Tool of the study

The researchers are using a created tool composing of 48 measurable elements and 4 open ended questions for information purposes only (see attached).

48 measurable elements are divided as the following:

Part one: The socio-demographic= 7

Part two: Pregnancy information=8

Part three: Indication of Episiotomy=8

Total of 23 elements.

Subject Recruitment and Selection:

Exclusion criteria: Cesarean deliveries, home deliveries and unusable records (lost or poorly completed).

Inclusion criteria: Delivery to take place vaginally with or without episiotomy

Records of the deliveries are correctly filled and available.

Location: Labor and delivery unit – episiotomy's performed on delivering women in KSAFWRH.

Duration: Expected duration of the study: 6 months (December 2019 TO June 2020).

1. Potential Risks: No known risks
2. Potential Benefits: The result of this study will assist in identifying an accurate picture about the episiotomy prevalence rate and determine the affecting factors of performing episiotomy among women in KSAFWRH and also comparing to other health care settings in KSA. This knowledge will assist us in our efforts to prevent the unnecessary use of episiotomy's.
3. Sample Size: Using Simple Random Sampling. The SVD delivery cases in KSAFWRH are estimated around 1000 case. Using $E = \sqrt{(N - n) \times n / (N - 1)}$ equation, the sample size will be 278 . The margin of error was 5% and the confidence level 95%.

Data Collection: The researchers are using a created tool composing of 48 measurable elements and 4 open ended questions for information purposes only (see attached)

48 measurable elements are divided as the following:

Part one: The socio-demographic= 7

Part two: Pregnancy information=8

Part three: Indication of Episiotomy=8

Total of 23 elements

4. Data collection: Data from current patient's files, selected files that's met the 48 measurable elements criteria's of sample `selection.

RESULTS

Socio-demographic characteristics

During the study period, there was a total of 300 research tool filled L & D staff for only vaginal deliveries current cases, after excluding the tools with missing data we remained with 215 case only. The majority, 154 (71.7 %) of respondents who gave birth were in the age group of 20-29 years. The average mean age of the respondent was 27.7 ± 4.2 years. From the total of respondents, 207 (96.3%) was a House Wife. The average weight is 71.66 ± 8.54 while the average height was 161.06 ± 7.72 (Table 1).

Pregnancy & Delivery Data

From the total of participants, 128 (59.5%) were primiparous. History of Previous Miscarriage were 29 (13.5%) of the total participants and C section were 13(6.0%). Oxytocin was used on 159 (74.0%). Regarding Childbirth Attendant; 154 (71.6%) were attended by midwives (Table 2).

Indications for episiotomy

132 the indication was prime parity, 66 were because of rigid perineum, while 63 were due to baby distress (Figure-1).

Indications for episiotomy in relation to Patients Characteristics

Episiotomy were performed due to prime-parity in relation the most with age group of 20-29 years' 102 (77.28%), and 46 (69.70%) with same age group due to rigid perineum. House wives how are prime were 127(96.21%), with rigid perineum were 64(96.97%), and with baby distress were 61(96.83%).

The prime who had episiotomy due to prime parity were 132(91.06%), while the multi paras had episiotomy due to rigid perineum with 39(59.09%) (Table-3).

Indications for episiotomy in relation to Patients Characteristics

Chi- Square test was applied to calculate these p-value for association of different indication with patent characteristics. There is a significant relation in the fetal distress and history of C/S and child birth attendance with most of the variables (Table 4).

Table-1: Socio-Demographic Data of Study Participants n =215

Variables	Participants	Frequency	Percent
Age of Participants	<20 years	18	8.4
	20-29 years	154	71.7
	30-39 years	42	19.5
	>40 years	1	0.4
Occupation	House Wife	207	96.3
	Employed	8	3.7

Weight	71.66±8.54 [41-94]
Height	161.06±7.72 [141-186]

Table-2: Pregnancy & Delivery Data of Study Participants n =215

Variables	Participants	Frequency	Percent
Pregnancy & Delivery Data	Prime-para	128	59.5
	Multi-para	87	40.5
	History f C-Section	13	6.0
	Previous Miscarriage	29	13.5
	Oxytocin Use	159	74.0
	Fetal Distress	61	28.4
Childbirth Attendant	Doctor	61	28.4
	Midwife	154	71.6

Table-3: Indications for episiotomy in relation to Patients Characteristics

n =215	Primi paraity		Rigid perineum		Baby distress		Instrument delivery		Other reasons	
freq/ percent	132		66		63		21		12	
Age										
<20 years	13	9.85%	4	6.05%	9	14.29%	1	5.00%	0	0%
20-29 years	102	77.28%	46	69.70%	41	65%	8	40.00%	3	37.50%
30-39 years	17	12.87%	15	22.73	13	20.71	11	51%	5	62.50%
>40 years	0	0%	1	1.52%	0	0%	1	4%	0	0%
Occupation										
House Wife	127	96.21%	64	96.97%	61	96.83%	21	95.24%	12	100%
Employed	5	3.79%	2	3.03%	2	3.17%	1	4.76%	0	0%
Pregnancy & Delivery										
Prime-para	132	91.06%	27	40.91%	34	53.97%	15	75%	2	25%
Multi-para	0	0%	39	59.09%	29	46.03%	5	2.32%	11	5.12
Oxytocin Use	98	74.24%	42	63.64%	43	68.25%	11	51%	5	50.33%
Fetal Distress	26	19.70%	6	9.09%	55	87.30%	16	80.09%	0	0%
Childbirth Attendant										
Doctor	28	21.21%	1	1.52%	50	79.37%	20	95.05%	3	12%
Midwife	104	78.79%	65	98.48%	13	20.63%	1	4.95%	7	88%

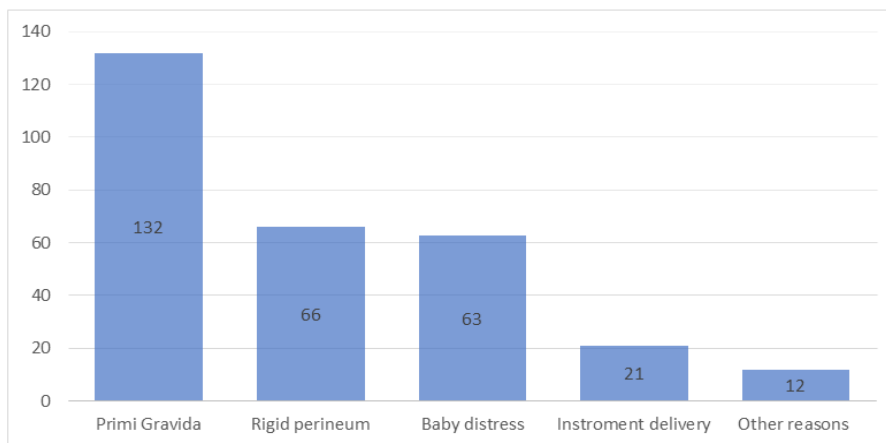


Figure-1: Indications for episiotomy (n=215)

Table-4

Variables	p-value							
	Baby distress	Ventouse delivery	Baby big size	Forceps delivery	Vaginal breech	H/O perineal tears	Rigid perineum	Primi paraity
Age	0.311	0.559	0.037	0.905	0.736	0.905	0.499	0.001
Occupation	0.785	0.356	0.571	0.844	0.732	0.000	0.722	0.948
Parity	0.082	0.458	0.001	0.607	0.031	0.000	0.129	0.000
History f C-Section	0.001	0.078	0.465	0.000	0.658	0.000	0.995	0.000
Childbirth Attendant	0.000	0.000	0.310	0.111	0.138	0.528	0.000	0.003

Oxytocin Use	0.220	0.010	0.116	0.552	0.106	0.552	0.022	0.903
Fetal Distress	0.000	0.000	0.070	0.111	0.272	0.528	0.000	0.000

Note: Chi- Square test was applied to calculate these p-value for association of different indication with patent characteristics.

DISCUSSION

The primary objectives of this study were to determine the prevalence of episiotomy and the affecting factors of performing episiotomy among delivering women.

Case characteristics in relation to age, age group less than 20 years were correlated with 14% of baby distress, 20 to 29 years were correlated with prime-parity as 77% of the cases. For age group 30 to 39 years in relation with instrument delivery as 51% of cases. Indication of episiotomy among 132 case were due to prime-parity, Rigid perineum were indication for 66 case, while baby distress was indication of 63 compared with Tight perineum 57.5%, Prolonged second stage 12.7%, Fetal distress 14.9%, and Instrumental delivery 11.2%.

The result of our study showed 59.5 % of the participants are prime-paras compared with 39.9% in a study was done in Public Health Institutions of Akaki Kality in Addis Ababa, Ethiopia done 2019. Fetal distress is an indication to perform episiotomy on 28.4% of the total participants compared with 14.9% on the same previous study.

Oxytocin was used on 74% of the participants compared with 36.8% of the episiotomy performed procedures on one study conducted on Brazil 2006. At the same previous study there were 33.1% of the participants attended by midwives while on this study the midwives attendance are 71.6%

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REFERENCES

- Rasouli, M., Keramat, A., Khosravi, A., & Mohabatpour, Z. (2016). Prevalence and factors associated with episiotomy in Shahroud City, northeast of Iran. *Int J Womens Health Reprod Sci*, 4(3), 125-129.
- Ahmed, H. M., Abdollah, W. H., & Al-Tawil, N. G. (2019). Prevalence and risk factors of episiotomy and perineal tear in the maternity teaching hospital of Erbil City, Iraq. *Erbil Journal of Nursing and Midwifery*, 2(1), 44-50.
- Innocent, N., Philemon, M. M., Prince, I., Justine, Y., Ntakwinja, M., Olivier, N., & Denis, M. (2018). Factors associated with episiotomy practice in Bukavu, Democratic Republic of the Congo. *Int J Reprod Contracep Obst Gynecol*, 7(7), 2554-2558.
- Aradmehr, M., Azhari, S., & Shakeri, M. T. (2015). Study of factors associated with postoperative pain following episiotomy in primiparous women at Mashhad Omalbanin hospital in 2012. *Journal of Midwifery and Reproductive Health*, 3(1), 305-314.
- Ana Dorcas de Melo Inagaki, B., Tiago, A., Caíque, J. N. R., & Ana, C. F. A. (2017). Frequency and Factors Associated with the Performance of Episiotomy in a High Risk State Maternity. *Journal of nursing*, 9(11), 3523-3532.
- Al Thaydi, A., Al Ghamdi, T., Chamsi, A., & El Mardawi, E. (2018). Perineal Tears Incidence and Risk Factors; A Four Years Experience in a Single Saudi Center. *IntGyn& Women's Health*; 1(5): 100-103. *IGWHC. MS. ID, 122*.
- Jug Došler, A., Mivšek, A. P., Verdenik, I., Škodič Zakšek, T., Levec, T., & Petročnik, P. (2017). Incidence of episiotomy in Slovenia: the story behind the numbers. *Nursing & Health Sciences*, 19(3), 351-357.
- Hsieh, W. C., Liang, C. C., Wu, D., Chang, S. D., Chueh, H. Y., & Chao, A. S. (2014). Prevalence and contributing factors of severe perineal damage following episiotomy-assisted vaginal delivery. *Taiwanese Journal of Obstetrics and Gynecology*, 53(4), 481-485.
- Worku, S. A., Mitku, Y. M., & Getahun, S. (2019). Episiotomy practice and its associated factor among women who gave birth at Public Health Institutions of Akaki Kality in Addis Ababa, Ethiopia. *Clinics Mother Child Health*, 16(318), 2.
- Ahmed, H. M., Abdollah, W. H., & Al-Tawil, N. G. (2019). Prevalence and risk factors of episiotomy and perineal tear in the maternity teaching hospital of Erbil City, Iraq. *Erbil Journal of Nursing and Midwifery*, 2(1), 44-50.
- Hauck, Y. L., Lewis, L., Nathan, E. A., White, C., & Doherty, D. A. (2015). Risk factors for severe perineal trauma during vaginal childbirth: a Western Australian retrospective cohort study. *Women and Birth*, 28(1), 16-20.
- Gün, İ., Doğan, B., & Özdamar, Ö. (2016). Long- and short-term complications of episiotomy. *Turkish journal of obstetrics and gynecology*, 13(3), 144-148.
- Yemaneh, Y., Sahile, E., Alehegn, A., Girma, A., & Robles, C. (2017). Assessment of the proportion and associated factors of episiotomy at Public Health Institutions of Axum Town, Tigray Region, North Ethiopia, 2015. *Crit Care Obst Gyne*, 3(4), 11.

14. Bergendahl, S., Ankarcróna, V., Leijonhufvud, Å., Hesselman, S., Karlström, S., Kallner, H. K., & Wendel, S. B. (2019). Lateral episiotomy versus no episiotomy to reduce obstetric anal sphincter injury in vacuum-assisted delivery in nulliparous women: study protocol on a randomised controlled trial. *BMJ open*, 9(3), e025050.
15. Mora-Hervás, I., Sánchez, E., Carmona, F., & Espuña-Pons, M. (2015). Perineal trauma in primiparous women with spontaneous vaginal delivery: episiotomy or second degree perineal tear. *Int J Women's Health Reprod Sci*, 3(2), 84-88.
16. Shmueli, A., Gabbay Benziv, R., Hirsch, L., Ashwal, E., Aviram, R., Yogev, Y., & Aviram, A. (2017). Episiotomy–risk factors and outcomes. *The Journal of Maternal-Fetal & Neonatal Medicine*, 30(3), 251-256.
17. Owa, O. O., Eniowo, A. R., & Ilesanmi, O. S. (2015). Factors associated with episiotomy among parturients delivering in a tertiary care centre in Nigeria. *Int J Res Med Sci*, 3(4), 836-840.
18. Nassar, A. H., Visser, G. H., Ayres-de-Campos, D., Rane, A., & Gupta, S. (2019). FIGO Statement: Restrictive use rather than routine use of episiotomy. *International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics*, 146(1), 17-19.
19. M Amorim, M., Coutinho, I. C., Melo, I., & Katz, L. (2017). Selective episiotomy vs. implementation of a non-episiotomy protocol: a randomized clinical trial. *Reproductive health*, 14(1), 1-10.
20. García-Lorca, A. I., Viguera-Martínez, M. D. L. Á., Ballesteros-Meseguer, C., Fernández-Alarcón, M. D. L. M., Carrillo-García, C., & Martínez-Roche, M. E. (2019). Rate of episiotomy in the University Clinical Hospital of Arrixaca and factors that influence in its practice. *Revista Espanola de Salud Publica*, 93.
21. Sagi-Dain, L., & Sagi, S. (2015). Morbidity associated with episiotomy in vacuum delivery: a systematic review and meta-analysis. *BJOG: An International Journal of Obstetrics & Gynaecology*, 122(8), 1073-1081.
22. Schantz, C., Sim, K. L., Ly, E. M., Barennes, H., Sudaroth, S., & Goyet, S. (2015). Reasons for routine episiotomy: a mixed-methods study in a large maternity hospital in Phnom Penh, Cambodia. *Reproductive health matters*, 23(45), 68-77.
23. Fikadu, K., Boti, N., Tadesse, B., Mesele, D., Aschenaki, E., Toka, E., ... & Paulos, A. (2020). 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, 1-9. <https://doi.org/10.1155/2020/8395142>
24. Beyene, F., Nigussie, A. A., Limenih, S. K., Tesfu, A. A., & Wudineh, K. G. (2020). Factors associated with episiotomy practices in Bahirdar City, Ethiopia: a cross-sectional study. *Risk Management and Healthcare Policy*, 13, 2281-2289