EHD
Available online at: https://dergipark.org.tr/tr/pub/jnef
Doi: 10.46483/jnef.1421050

ETKİLİ HEMŞİRELİK DERGİSİ

ORIGINAL ARTICLE / ORİJİNAL MAKALE

The Effect of Episiotomy Wound Care and Genital Hygiene Training on Episiotomy Wound Healing and Pain Perception: Randomized Controlled Trial

Epizyotomi Yara Bakımı ve Genital Hijyen Eğitiminin Epizyotomi Yara İyileşmesi ve Ağrı Algısına Etkisi: Randomize Kontrollü Çalışma

Gonca Buran[1] Seyhan Çankaya[2]

[1] RN, PhD, Assoc. Prof., Uludağ University, Department of Obstetrics and Gynecology Nursing, Faculty of Health Sciences, Bursa, Turkey
[2] RN, PhD, Assoc. Prof., Selçuk University Faculty of Health Sciences, Department of Midwifery, Konya, Turkey.

Geliş: 16.01.2024, **Kabul:** 01.10.2025

Abstract

Background: The fact that episiotomy is one of the most commonly performed procedures in labor causes its care to become even more important.

Objective: To determine the effect of episiotomy wound care and genital hygiene training on episiotomy wound healing and pain perception.

Methods: This randomized controlled trial was carried out in the postpartum service of the medical faculty hospital between March 2022 and April 2022. Women (n=128) who underwent vaginal episiotomy were randomly assigned to the training (n=64) and control (n=64) group. The women who gave birth in the training group were given episiotomy wound care and genital hygiene training. Routine postpartum care was given to the women who gave birth in the control group. The data were collected using the personal information form, the Episiotomy Site Evaluation Scale (REEDA score) and the Visual Analog Scale (VAS).

Results: According to the REEDA Scale (redness, edema, ecchymosis, discharge, approximation) of the wound healing status of the episiotomy site of the groups on the fifth (excluding ecchymosis) and 15th days postpartum, it was determined that the women in the training group healed faster than the women in the control group ($p < .05$). At the end of the evaluation with VAS on the fifth and 15th day after birth, it was determined that the perception of episiotomy wound site pain in women in the training group was lower than in women in the control group ($p < .05$).

Conclusions: It was determined that episiotomy wound care and genital hygiene training contributed to the acceleration of episiotomy wound healing and the decrease of pain perception in terms of redness, edema, discharge, approximation on the fifth (excluding ecchymosis) and 15th days. These results may contribute to restructuring postpartum care protocols. It is recommended that healthcare professionals, including nurses and midwives, integrate genital hygiene and wound care education into standard postpartum care practices to accelerate postpartum healing and reduce pain perception.

Keywords: Episiotomy, Genital Hygiene, Postnatal Care, REEDA Scale, Wound Care, Wound Healing

Sorumlu Yazar: Gonca BURAN, RN, PhD, Asst. Prof., Uludağ University, Department of Obstetrics and Gynecology Nursing, Faculty of Health Sciences, Bursa, Turkey. **Email:** goncaburan@gmail.com , **Tel:** +90 (224) 294 24 81

Nasıl Atıf Yapılır: Buran G, Çankaya S. The Effect of Episiotomy Wound Care and Genital Hygiene Training on Episiotomy Wound Healing and Pain Perception: Randomized Controlled Trial. Etkili Hemşirelik Dergisi. 2026;19(1): 15-31

Journal of Nursing Effect published by Cetus Publishing.

Öz

Giriş: Epizyotominin doğum eyleminde en yaygın uygulanan işlemlerden biri olması, bakımının daha da önem kazanmasına neden olmaktadır.

Amaç: Epizyotomi yara bakımı ve genital hijyen eğitiminin epizyotomi yara iyileşmesi ve ağrı algısı üzerine etkisini belirlemektir.

Yöntem: Randomize kontrollü çalışma, Mart 2022 ile Nisan 2022 tarihleri arasında tıp fakültesi hastanesinin doğum sonrası servisinde gerçekleştirildi. Vajinal epizyotomi uygulanan 128 kadın, eğitim (n=64) ve kontrol (n=64) grubuna randomizasyon yöntemiyle atandı. Eğitim grubundaki doğum yapan kadınlara epizyotomi yara bakımı ve genital hijyen eğitimi verildi. Kontrol grubunda doğum yapan kadınlara rutin doğum sonrası bakım verildi. Veriler kişisel bilgi formu, epizyotomi alanı değerlendirme ölçeği (REEDA skoru) ve Görsel Analog Skala (VAS) kullanılarak toplandı.

Bugular: Eğitim grubundaki kadınların REEDA Ölçeğine göre doğum sonrası beşinci (ekimoz hariç) ve 15. günlerde epizyotomi bölgesindeki yara iyileşme durumunun kontrol grubundaki kadınlara göre (kızarıklık, ödem, akıntı, yakınlaşma açısından) daha hızlı iyileştiği belirlendi ($p<.05$). Doğum sonrası beşinci ve 15. günde VAS ile yapılan değerlendirme sonucunda eğitim grubundaki kadınların epizyotomi yara yeri ağrısı algısının kontrol grubundaki kadınlara göre daha düşük olduğu belirlendi ($p<.05$).

Sonuç: Epizyotomi yara bakımı ve genital hijyen eğitiminin beşinci (ekimoz hariç) ve 15. günlerde kızarıklık, akıntı ve dokuların yakınlaşması açısından epizyotomi yara iyileşmesinin hızlanmasına ve ağrı algısının azalmasına katkı sağladığı belirlenmiştir. Bu sonuçlar, doğum sonrası bakım protokollerinin yeniden yapılandırılmasına katkı sağlayabilir. Hemşireler ve ebeler de dahil olmak üzere sağlık çalışanlarının, Epizyotomi sonrası iyileşmeyi hızlandırmak ve ağrı algısını azaltmak için genital hijyen ve yara bakımı eğitimini standart doğum sonrası bakım uygulamalarına entegre etmeleri önerilir.

Anahtar Kelimeler: Epizyotomi, Doğum Sonrası bakım, Genital Hijyen, REEDA Ölçeği, Yara Bakımı, Yara iyileşmesi

INTRODUCTION

Episiotomy is the surgical amplifying of the vaginal mouth by surgically cutting the perineum. Since the 1920s, episiotomy has been surgically widespread to prevent perineal rupture and related maternal and infant morbidity. Although episiotomy was performed routinely and prophylactically from the 1980s to the mid-1990s, concerns arose about potential complications associated with episiotomy during this period (Clesse et al., 2019). The World Health Organization (WHO) and professional societies recommend restricted use of episiotomy rather than routine use (WHO, 2018; Ye et al., 2022). Despite evidence of its risks since the 1990s, routine use of the procedure still persists, with no benefit observed (Mirouse, 2022).

Episiotomy is used for primiparas in 90% to 99% of the cases in our country compared to previous studies, and this increases every year (Yıldız Karaahmet & Yazıcı, 2017; Balcik Colak & Ozturk Can, 2021; Buran & Aksu, 2022). Recent studies show that primipara women still have more routine episiotomy (Balcik Colak & Ozturk Can, 2021; Buran &Aksu, 2022). A recent study in the Philippines, a developing country, reported that 92% of births were performed by episiotomy (Tantengco & Velayo, 2022), while a study conducted in China reported that this figure was 41.7%. In developed countries such as France and America, these rates are lower (Ye et al., 2022).

Episiotomy and the associated perianal pain can have a significant impact on various daily activities, including mobility, urination, defecation, and breastfeeding (Yanik & Ertem, 2020). The Research indicates that between 20% and 75%

of women report experiencing pain in the perineal region for up to two weeks following the procedure, with the most substantial discomfort typically occurring within the first week (Swain & Dahlen, 2013; Kim et al., 2020). Furthermore, studies suggest that approximately 10% of women may experience persistent pain for at least three months post-episiotomy. These findings highlight the critical need for effective pain management and comprehensive support for women during their recovery process (Beleza et al., 2017).

The fact that episiotomy is one of the most applied procedures in the act of childbirth has led to the fact that its care gained more importance. The perineum is a very sensitive area and the muscles in this area involved many activities such as sitting, walking, standing, squatting, bending, urinating and defecating (Bolatlı, 2018; Samuel et al., 2021). This area is moist after childbirth. This environment can facilitate the reproduction of microorganisms and delay the healing of the area of the episiotomy. In addition, the proximity of the urethra and rectum to the episiotomy site increases the risk of developing infection in women. Perineal infection due to episiotomy, perineal pain, dyspareunia, urinary discomfort and genital prolapse may develop (Friedman et al., 2015; Samuel et al., 2021). In addition to infection in the wound area, the rate of encountering problems such as opening the edges of the wound is also quite high (Çobanoğlu & Şendir, 2019). These complications cause pain in the episiotomy site and delays in wound healing. Midwife and nursing care have a very important place in preventing complications that may occur after episiotomy (Pore et al., 2014; Marzouk et al., 2015).

When previous studies on episiotomy wound healing are examined; In these studies, the effects of different applications are investigated such as sitz bath (Pore et al., 2014), infrared lamp application (Nethrauathi et al., 2015), bioptron light therapy, phototherapy (Mohamed et al., 2016), solutions obtained with jojoba oil and lavender-oregano oil extract (Marzouk et al., 2015), yarrow extracted with 90% ethanol solution (Hajhashemi et al., 2017; Çobanoğlu & Şendir, 2020), and cream containing St John's Worth plant (Çobanoğlu & Şendir, 2019). In these studies, it is determined that different care products are used in addition to different methodologies. However, providing the most effective care during episiotomy recovery is important for the formation of a standard midwife and nursing practice (Mohamed et al., 2016; Clesse et al., 2019).

Midwives and nurses should fulfill their training and care duties in episiotomy care attempts to accelerate wound healing in the episiotomy site, reduce the pain of the woman, prevent the development of infection in the wound area (Mohamed et al., 2016; Clesse et al., 2019). They should evaluate the episiotomy site, monitor the recovery, and do the care for the perineum. Above all, a woman who is discharged early after childbirth (within 2 days) should fulfill her duty by providing perineum care and nutrition training in order to maintain healthy episiotomy wound care at home. In this study, we aimed to determine the effect of the training program on episiotomy wound healing and pain perception. For this, we conducted a training program that included training material to raise awareness about wound care after episiotomy and to eliminate factors that delay the healing process of episiotomy wounds. The program also covered genital hygiene. Our goal was to improve wound healing and reduce pain perception.

Hypotheses

H1: Women who receive episiotomy wound care and genital hygiene training have faster episiotomy wound healing than the control group.

H2: Women who receive episiotomy wound care and genital hygiene training have a lower perception of pain in the episiotomy site than the control group.

METHODS

Type of Research

The research is an experimental study with parallel groups including randomized controlled, training, and control with training intervention. This study is registered at ClinicalTrials.gov (NCT05358236). In this study, reporting adhered to the CONSORT extension for parallel group randomized trials and the TIDieR checklist (CONSORT Flow Diagram, 2022; CONSORT checklist, 2022).

Place of the Research

The study was conducted in the postpartum unit of the medical faculty hospital situated in a centrally located city This hospital was chosen as the place to conduct the research due to the fact that it is one of the hospitals with a high number of annual births and it is thought that cooperation in the research process would be easy.

The Universe/Sample of the Research

The The population of the study consisted of primiparous mothers who gave birth vaginally between March 2022 and April 2022. The sample size of the study was determined using the "G. Power-3.1.9.2" program (Faul et al., 2007). It calculated that 62 women had to be included (was included) in each group to reach an 80% power at the 5% Types I error level with a 0.5 (medium) effect size. Due to possible losses, 64 women were invited to each group in the study. However, a total of 124 women completed the study due to reasons such as pregnancy complications and abandoning the study. Therefore, the power analysis was performed again. According to the analysis, it was determined that the study had 90% power, 5% Type I error level and .59 (medium) effect size.

The population of the study consisted of primiparous mothers who gave birth vaginally between March 2022 and April 2022. Volunteer women who met the criteria for inclusion were randomly assigned to the training and control groups. To be included: Mothers who are 18 years of age and older, who are primiparous, who give birth vaginally in term (37-42 gestational weeks), who have a healthy newborn, who have a mediolateral episiotomy, who do not have communication problems and who can understand and speak Turkish were included in the research.

Exclusion criteria: Those who are delivered by cesarean section, have third and fourth-degree perineal tears, have a history of diseases that prevent wound healing, such as using certain drugs (e.g., glucocorticoids, anticoagulants, chemotherapy, immunosuppressant, and radiotherapy), having chronic systemic diseases (heart, kidney and lung diseases, coagulation disorder, immunodeficiency, connective tissue disorders, and diabetes), history of genital warts, symptomatic vaginitis, history of perineal reconstructive surgery, any postpartum complication (hemorrhage, puerperal infection, mastitis, thromboembolic disease or postpartum psychiatric disorder) were excluded.

Randomization: In this study, a simple random randomization method was used for the randomization of participants. A simple random randomization list was created using a computer-aided program by the responsible

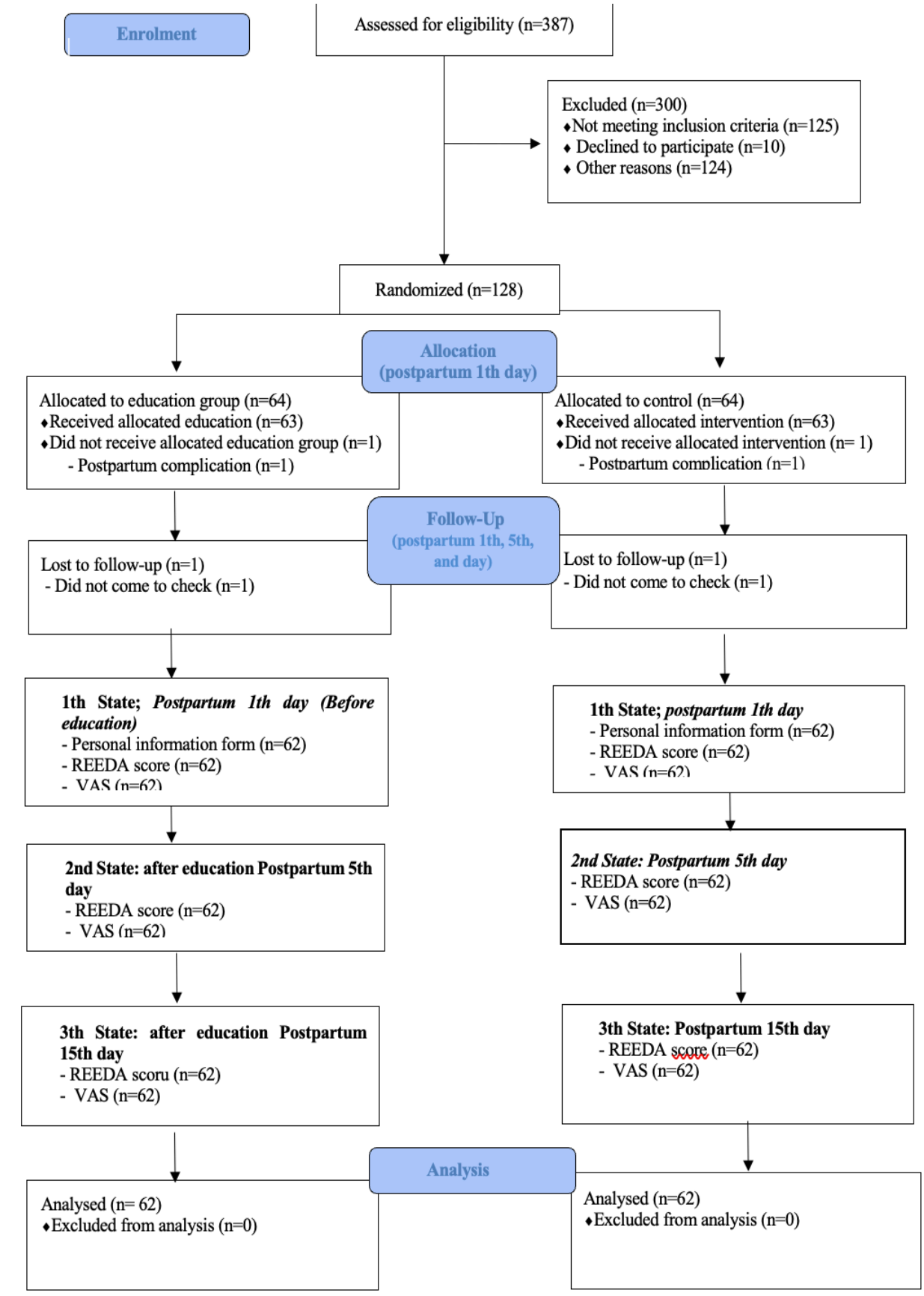

Fig. 1. CONSORT diagram. Selection of participants through each trial stage.

author (Randomizer.org, 2022). The numbers to be given to the groups (1 and 2) were determined by drawing lots. The training group was given number 1 and the control group was given number 2. "64" numbers of 1 and "64" numbers of 2 entered into the computer-aided randomization program. The program created rows from 1 to 128 and randomly assigned 1 or 2 next to these row numbers. The numbers 1 to 128 in the list indicated the participants you would invite, and the 1 or 2 written next to the row numbers indicated which group the women who would be invited to the study would be assigned to. Participants were assigned to groups according to this list prepared by the program. The co-author assigned 64 primiparous women to the training group and 64 primiparous women to the control group.

Blinded: In this study, participants were assigned to groups, and the researcher performed experimental interventions. Therefore, due to the nature of the study, the researchers couldn't be blind to the groups. However, the analyses were performed by a statistician unaware of these assignments. The data were divided into two groups, designated as A and B. An independent statistician analyzed the coded data. After the statistical analyses were completed and the research report was finalized, codes were determined for the training and control groups. Subsequently, data analysis for groups A and B was performed accordingly.

In the training group, two women withdrew from the study: one due to the development of postnatal complications and the other because she did not return to the hospital for postpartum follow-up. In the control group, a total of two women left the study due to the development of hemorrhage in one mother and one woman continue her follow-up at another hospital. Thus, the study was completed with 62 mothers in the training group and 62 mothers in the control group (Fig 1**)**

Data Collection Instrument-Validity and Reliability Information

Personal information form, Episiotomy Site Evaluation Scale (REEDA SCORE) and Visual Analog Scale (VAS) for episiotomy pain were used as data collection tools.

"Personal information form" was prepared by the researchers in line with the literature; It consists of 12 questions, 5 sociodemographic questions about postpartum women, and 7 questions about episiotomy and delivery (Hajhashemi et al.,2017; Çobanoğlu & Şendir, 2019).

"REEDA (Redness, Edema, Ecchymosis, Discharge, Approximation) Score", which is the evaluation scale of the episiotomy site, was first used by Davidson in 1970 in his master's thesis on the healing of the perineum. Validity and reliability study of the scale was conducted by Hill in 1989 (Hill, 1990). The REEDA Score was used by Üstünsöz in his specialty thesis entitled 'The Effect of Hot and Cold Applications on Episiotomy Healing' and validity and reliability studies were carried out for our country (Üstünsöz, 1996). This scale covers five factors indicating perineal wound healing: (1) Redness, (2) Edema, (3) Ecchymosis, (4) Discharge, (5) Approximation (Alvarenga et al., 2015). A total REEDA score obtained evaluating each category of these five recovery factors. The scale is evaluated by giving 0, 1, 2 and 3 points to each evaluation. The lowest score is 0 and the highest score is 15. The highest score indicates the most serious perineal trauma. In this study, the scale was used for postpartum (first day), the second evaluation (on the fifth day after birth) and the third evaluation (on the 15th day after birth). The

table for the Episiotomy Site Evaluation Scale (REEDA Score) is as follows.

Previous studies have determined that the evaluation of preanal pain due to episiotomy mainly was evaluated on the first day and 5th day after birth, while wound healing was evaluated with REEDAscale on the first day and 15th day after birth (Karaçam et al., 2013; Alvarenga et al., 2015; Kalis, Rusavy, & Prka, 2017; Pebolo, Judith, & Dan, 2020). When the studies were examined, although the follow-up time in the evaluation of episiotomy wound healing with the REEDA scale differed, emphasizing similar follow-up times (Kalis, Rusavy & Prka, 2017; Pebolo, Judith, & Dan, 2020; Ramesh et al., 2024) considering the results of studies in which episiotomy pain and wound evaluation were performed, it was monitored on the first postnatal day, 5th day, and 15th day.

Table 1. Episiotomy Site Evaluation Scale (REEDA Score)

Points	REDNESS	ODEMA	ECCHYMOSIS	DISCHARGE	APPROXIMATION
0	None	None	None	None	Closed
1	Within 0.25 cm bilaterally of the incision	Less than 1 cm at the incision site in the perineum	Biletaral 0.25cm, unileteral 0.5cm	serum	Skin separation 3 mm or less
2	Within 0.5 cm bilaterally of the incision	at the perineum 1-2 cm incision site in the	Between 0.25 and 0.5 cm bilaterally, unilateral 0.5 cm	Serospangionoz	Skin and subcutaneous adipose tissue
3	Beyond 0.25 cm bi-lateral the incision	Greater than 2 cm at the incision site in the perineum	Bilateral greater than 1 cm unilateral greater than 2 cm	Bloody purulent	Skin and subcutaneous fat and fascia layers are separation

"Visual Analog Scale (VAS)" was developed by Mary Hayes and Donald Patterson in 1921 (Hayes and Patterson, 1921). To evaluate pain in the postpartum period, the VAS was be used. This scale is designed to convert non-numerical values into measurable units. It consists of a 100 mm line with two-end definitions of the parameter to be evaluated written at both ends. The healthcare provider requests the patient to indicate the level of their pain on a line by drawing a line, placing a dot, or pointing. The line has "no pain" written on one end and "very severe pain" at the other end. The length of the distance from the point the pain never existed to the place marked by the patient indicates the patient's pain (Hayes, 1921; Wewers & Lowe,1990). Reported the Cronbach alpha value of the scale was .92 (Wewers & Lowe 1990). In this study, the Cronbach alpha value of the scale was calculated as .89. Data was collected in three stages.Stage 1 (pre-training); Personal information form, Episiotomy Site Evaluation Scale (REEDA score), and Visual Analog Scale (VAS) forms were applied to both the training and control groups.

Stage 2 (5th postpartum); Episiotomy Site Evaluation Scale (REEDA score) and Visual Analog Scale (VAS) forms were applied to both the training and control groups.

Stage 3 (postpartum day 15th); Episiotomy Site Evaluation Scale (REEDA score) and Visual Analog Scale (VAS) forms were applied to both the training and control groups.

In the study, scale assessments were carried out by the co-researcher who had experience in postpartum women's care. A special physical examination room was used to evaluate the REEDA score. Peri-Ruler Tool was used to evaluate scale substances that require measurement and afterwards, it was cleaned with water and soap. It was then disinfected with 70% alcohol and reused. The Peri-Rule tool is a flexible plastic ruler designed with

a millimeter scale for precision. This single-use instrument is disaffectedly, ensuring safety and hygiene, and is quick and easy to use in clinical practice, research, and educational settings.

Intervention

Training group

The researchers provided training on wound healing and genital hygiene for mothers who were assigned to the training group. This training was given in person by the researchers to each mother individually in their rooms, and it lasted approximately one hour on average. A written and illustrated brochure was given to the mothers after the training for future reference.

Training material

In the process of preparing educational materials and booklets, expert opinions were sought to ensure quality and effectiveness. The evaluation of the "Educational Booklet" was conducted using the DISCERN measurement tool, which assesses quality criteria for consumer health information (Charnock, D., & Shepperd, S., 2020). The assessment focused on various aspects, including the objectives and scope of the booklet, clarity of expressions, appropriateness of the content, sufficiency of the information provided, and the relevance of the images used in relation to the provided information.

Training content

Women were shown pictures of external reproductive organs, including the anus, urethra, vagina, and perineum.

During the session, the term "episiotomy" was defined and its application was thoroughly explained using visual aids. The session also covered the proper care of the episiotomy site to ensure faster and healthier healing. It was advised to wash hands with soap and water for at least 30 seconds before using the toilet, to wash from the urination area to the defecation area, and to use white, perfume-free toilet paper for drying.

Information was given on how to change their menstrual pads. [(1) Pay attention to the cleanness of the pads used in the follow-up of bleeding. (2) Before replacing your pad, wash your hands with soap and water for a minimum of 30 seconds. (3) Do not carry your pad in the open, hold it in its bags and do not touch the surface of the pad that will come into contact with the external reproductive organs before using it to simply avoid contamination of the microorganism. (4) Change your pad every 4-6 hours and if possible, every 2 hours. (5) Make sure that the pad you use is colorless and perfume-free].

Information was provided on what to look for when using underwear [(1) Use clothing that is suitable for a size, comfortable to cut and not tight, (2) Nylon and tight underwear prevents airing, creating a humid environment and paves the way for infections; make sure that your underwear is cotton, white and personalized, (3) Use well-washed, well-rinsed light and non-squeezing cotton panties and change them daily, (4) Do not use too much detergent, bleach and fabric softener for washing your underwear, rinse them with plenty of water and dry in the sun, (5) Always iron your underwear before wearing them].

What to watch out while taking a bath: (1) you should take a bath every day if possible, (2) Take a standing shower and do not use the common seating areas. Dirty seat and bath water can cause germs to infect your seam area when bathing in the bathtub, this can cause inflammation and wound opening in your stitches, (3) carefully wash and clean the area where urine and feces are made during the bath, (4) make sure to change your underwear and clothes after each bath,

(5) Your nails should be short.

What should you pay attention to in your stitch area? (if you encounter problems such as pain, burning, itching, smell, swelling, bruising, bloody discharge from the seams, always contact a health care provider.)

The women in the control group were only given routine postpartum care, which encompassed breastfeeding support, infant care, guidance on baby safety, and an overview of lochia characteristics.

Evaluation of the Data

The data obtained from the research was analyzed using the SPSS 20.0 package program by the statistics expert. The normality of the data was evaluated using the Kolmogorov-Smirnov (K-S) normality test. Since the Skewness and Kurtosis values of all scales were between -1.50 and +1.50, it was determined that parametric tests were appropriate (Tabachnick & Fidell, 2013). Descriptive statistics such as numbers, percentages, arithmetic mean, and Standard Deviation (SD) were used to analyze the data. To test the homogeneity of identifier properties, Pearson Chi-square Test, Yates Corrected Chi-square Test (continuity correction) were used for categorical variables, while Independent-sample T-Test was used for numerical variables in independent groups. The groups were compared using Independent Sample T-tests to determine the difference between the two mean values of the REEDA score and pain perceptions (VAS). Cohen's was calculated, and for all tests, $p < .05$ was considered statistically significant.

Ethical Aspect of the Research

To conduct the study, we obtained institutional approval from both the local research ethics committee (Ethics permit # blinded for review) and the relevant hospital (Institution approval #: blinded for review). We collected informed consent forms from all participating mothers prior to the interview, and explained the research to them. To ensure privacy, each participant was interviewed in a separate room within the hospital. Additionally, we informed the participants that they could withdraw from the study at any time without giving any reason, and their participation was entirely voluntary. Their identities were kept confidential.

RESULTS

The mean age of mothers in the training group was 26.8 years (SD = 3.8), while the mean age of mothers in the control group was 27.3 years (SD = 3.8). A majority of participants in the training group (55.4%) and the control group (44.6%) identified as housewives, with a predominant perception of middle-income status. Among the mothers in the training group, 68.8% had completed primary school, and 46% had graduated from high school. In the control group, 31.2% were primary school graduates, while 49.1% were high school graduates. All participants in both groups were married, and none reported alcohol consumption. Furthermore, every mother involved in the study gave birth to a healthy newborn. In terms of hygiene practices, 55 women in the training group and 44 women in the control group reported using sanitary pads. There were no significant differences observed between the groups regarding the use of cotton underwear or the practice of changing underwear every 2 to 3 days ($p > 0.05$). Additionally, daily water consumption of 1.5 liters and protein intake were found to be similar across both groups ($p > 0.05$, Table 2). On the first day of postpartum, there was no difference between the training and control groups mothers in terms of REEDA Score and pain perceptions (VAS) of the episiotomy site ($p > .05$, Table 3).

Table 2. Comparison of The Characteristics of All Pre- Training Mothers

Characteristics	Training group (n=62)	Control group (n=62)		
	Mean (SD)	Mean (SD)	t	p- value
Age (years), Mean (SD)	26.2 (3.8)	27.3 (3.8)	-1.622	.107
	n (%)	**n (%)**	χ^2	
Education				
Primary school	11 (68.8)	5 (31.2)	3.287[Y]	.199
High school	29 (50.9)	28 (49.1)		
Bachelor's/Master's	22 (43.1)	29 (56.9)		
Employment status				
Full-time housewife	46 (55.4)	37 (44.6)	2.332[Y]	.127
Employed	16 (39)	25 (61)		
Perceived Income Level				
Good	5 (45.5)	6 (54.5)	1.042[Y]	.594
Fair	47 (52.8)	42 (47.2)		
Poor	10 (41.7)	14 (58.3)		
Used material for postpartum hemorrhage follow-up				
Hygienic pads for women	55 (48.2)	59 (51.8)	-	.323[F]
Cloth	7 (70)	3 (30)		
Underwear type				
Cotton	56 (51.9)	52 (48.1)	0.646[Y]	.422
Nylon/synthetic	6 (37.5)	10 (62.5)		
Frequency of changing underwear				
Every day	28 (52.8)	25 (47.2)	0.528[Y]	.768
Every 2-3 days	28 (46.7)	32 (53.3)		
Once a week	6 (54.5)	5 (45.5)		
Drinking at least 1.5 liters of water per day				
Yes	52 (54.2)	44 (45.8)	2.260[Y]	.133
No	10 (35.7)	18 (64.3)		
The state of consuming protein at every meal				
Yes	39 (48.8)	41 (51.2)	0.141[Y]	.707
No	23 (52.3)	21 (47.7)		

t=Independent sample t test, Pearson chi-schare test, SD=Standard Deviation Y: Chi-square test with Yates correction, SD: 1 (5<observed value < 25) F: Fisher Exact Test (expected number < 5)

Table 3. Postpartum On Day 1, Comparison of Groups' Episiotomy Site Wound Recovery Status and VAS Scores

Variables	Training group (n=62)	Control group (n=62)		
	Mean (SD)	Mean (SD)	t	p- value
REEDA total score	5.3 (1.5)	5 (1.3)	1.352	.179
Redness	1.6 (0.6)	1.6 (0.7)	0.241	.810
Odema	1.4 (0.6)	1.5 (0.6)	-0.820	.414
Ecchymosis	1.2 (0.5)	1.1 (0.5)	1.598	.113
Discharge	0.6 (0.6)	0.5 (0.5)	1.591	.114
Approcximation	0.2 (0.4)	0.2 (0.4)	1.033	.304
VAS	7.2 (1.6)	7.1 (1.5)	0.280	.780

t=Independent sample t test, SD=Standard Deviation

In the evaluation of the wound healing status of the episiotomy site of the groups on the postpartum fifth day according to the REEDA Score (redness, edema, ecchymosis, discharge, approximation); it was determined that women in the training group recovered faster than women in the control group ($p < .05$, Table 4). There was no difference between the groups in terms of ecchymosis on the fifth day

(p > .05, Table 4). On the postpartum 5th day, it was determined that the episiotomy site pain perception (VAS) in the women in the training group was lower than the women in the control group (p < .05, Table 4). For the VAS, Cohen's d = 0.21 was calculated, indicating a low effect size. For the REEDA scale, a moderate effect size (0.59) was calculated.

Table 4. Comparison of Episiotomy Site Wound Healing Status and VAS Scores of the Groups on Day 5th Postpartum

Variables	Training group (n=62)	Control group (n=62)		
	Mean (SD)	Mean (SD)	t	p- value
REEDA Scale total score	2.5 (2)	3.6 (2.3)	-2.859	.005
Redness	1 (0.7)	1.3 (0.5)	-2.538	.013
Odema	0.6 (0.5)	0.9 (0.6)	-2.261	.026
Ecchymosis	0.3 (0.5)	0.5 (0.6)	-1.581	.117
Discharge	0.3 (0.6)	0.5 (0.7)	-2.004	.047
Approcximation	0.09 (0.3)	0.2 (0.5)	-2.238	.027
VAS	3.2 (1.7)	4 (1.5)	-2.443	.016

t=Independent sample t test, SD=Standard Deviation

According to the REEDA Score of the wound healing status of the episiotomy site of women on the postpartum 15th day; It has been determined that redness, edema, discharge, and wound closure conditions heal faster in women in the training group compared to women in the control group (p <.05, Table 5). There was no statistical difference between the groups in terms of ecchymosis on the 15th day (p >.05, Table 5). On the postpartum 15th day, it was determined that the episiotomy site pain perception (VAS) of the women in the training group was lower than the women in the control group (p <.05, Table 5).

Table 5. Comparison of Episiotomy Site Wound Healing Status and VAS Scores of the Groups on Day 15th Postpartum

Variables	Training group (n=62)	Control group (n=62)		
	Mean (SD)	Mean (SD)	t	p- value
REEDA Scale total score	1.1 (2)	2.1 (1.9)	-2.534	.013
Redness	0.4 (0.5)	0.6 (0.5)	-2.271	.025
Odema	0.3 (0.5)	0.4 (0.5)	-1.755	.082
Ecchymosis	0.1 (0.4)	0.3 (0.5)	-1.443	.152
Discharge	0.2 (0.5)	0.4 (0.5)	-2.308	.023
Approcximation	0.08 (0.3)	0.2 (0.4)	-2.220	.028
VAS	0.9 (0.8)	1.2 (0.6)	-2.377	.019

t=Independent sample t test, SD=Standard Deviation

DISCUSSION

Although numerous recommendations have emerged in the last part of the second stage of childbirth that conclude that the episiotomy, defined by an incision to the perineum for surgical expansion of the vaginal mouth, is almost pointless in reducing its number and at the same time prophylactically, it is considered the most common surgical technique in the world today (Clesse et al., 2018; Clesse et al., 2019; Zaami et al., 2019).

In the results of the research conducted in our country and various countries, the episiotomy rate was above the global recommended standards (Yıldız Karaahmet & Yazıcı, 2017; Clesse et al., 2019; Tex-Jack, & Eleke, 2021; Buran & Aksu, 2022) and reportedly affected mother dispropor-

tionately (Clesse et al., 2018; Jha, 2020). Many undesirable situations can be encountered in episiotomy. These are pain, edema, ecchymosis, redness and infection in the wound area. These findings occur in the first hours after birth and may remain in hospital during and even after discharge (Alvarenga et al., 2015; Çobanoğlu &Şendir, 2019). Therefore, the wound healing process was monitored even after the discharge.

Although various plant studies, topical aromatherapy, herbal creams, antiseptic solution, cold application, etc. have been developed and researched in the literature for episiotomy wound healing and pain relief, which has become a global problem of most mother in the postpartum period, their effectiveness still remains unclear (Marzouk et al., 2015; Hajhashemi et al., 2017). In a previous study, researchers identified factors that delayed the episiotomy wound healing process as crowded family, hygiene habits and incorrect genital hygiene habits (Durmaz & Buğdaycı, 2013). However, when previous studies were examined, a randomized controlled trial performed with genital hygiene habits and episiotomy care training intervention using the basic roles of the nurse's training and counseling is limited. In this study, which we conducted to determine the effect of genital hygiene and wound care training on episiotomy wound healing and pain perception, the socioeconomic characteristics of the women in the groups being statistically similar, redness, edema, ecchymosis, and discharge, score averages evaluated with REEDA Scale before the training intervention in the first 24 hours of delivery, and pain score averages evaluated with VAS being similar is important for comparing wound healing scores and the strength of the results per Day 5 and Day 15.

The perinea skin is so sensitive that damage can occur within minutes if it comes into contact with liquid stool. Therefore, this risk increases even more, especially considering the proximity of the episiotomy to the anus (Mohamed & El-Nagger, 2012). It is important to do the correct genital hygiene in order to heal the wound and prevent infection in the episiotomy site. In this study, it was determined that the wound healing scores of the mother who were given genital hygiene and wound care training on the 5th and 15th days healed faster than the mother in the control group. Similar to this result of our study, in a study examining the effect of self-perineal care and routine hospital care on episiotomy recovery, researchers found that the redness, edema and approaching of wound edges in the puerperal mother who self-care perineum were statistically significantly lower than the puerperal group who received routine hospital care (Mohamed & El-Nagger, 2012). In previous studies involving episiotomy wound care training intervention, which includes a series of procedures, it has been reported that wound healing process takes place in a shorter time (Bick, 2009; Mohamed et al., 2016; Samuel et al., 2021).

The study conducted by Durmaz and Resul (2013) provides important insights into maternal hygiene practices. The findings indicate that certain factors, specifically delayed bathing following childbirth and improper genital hygiene, were associated with a delay in the healing process of episiotomy wounds, as measured by the REEDA Scale scores. These results underscore the significance of promoting proper hygiene practices to support maternal health and recovery. In the trainings of genital hygiene and perineum care, mothers are advised to use cotton underwear, wash and dry the perineal area after the toilet, wash their hands before and after each change with regular replacement, and take a standing shower at least once a day to keep the perineum clean (Bick, 2009; Mohamed et al., 2016; Samuel et al., 2021; Tomaz et al., 2021).

In our research, training material based on scientific evidence to reduce mother ‘s pain and accelerate episiotomy wound healing and genital hygiene and episiotomy wound care training contributed to the reduction of pain scores evaluated by VAS. On the 5th and 15th day of postpartum, the perception of episiotomy pain in mother in the training group was found to be lower than in the mother in the control group. This results of the study demonstrate that hypotheses H1 and H2 have been accepted. Similarly, in the study of Mohammed and El-Nagger, they have found that the pain score of the training group in which they provided perineal care training was statistically significantly lower than the puerperal group who applied hospital care (Mohamed & El-Nagger; 2012). A group of preliminary and final test-designed studies showed that the woman’s knowledge of postpartum perineal wound care increased significantly after the intervention (Samuel et al., 2021).

Muhammad (2021) conducted a study highlighting a concern regarding women’s understanding and practical knowledge of episiotomy and perineal care. The findings indicate the women’s need for enhanced education and awareness, knowledge, and practice regarding episiotomy and perineal care. In the current study, the training intervention suggests that the training given with evidence-based information and the illustrated printed brochures are effective in the fact that wound healing of the group is realized in a shorter time and pain scores are rather less.

There was no difference in the perception of wound healing and pain in the episiotomy site of the mothers on the first postpartum day. However, on the 5th and 15th day of postpartum, it was determined that the wound healing status of the episiotomy site of the groups improved faster than the women in the control group according to the REEDA Scale (redness, edema, discharge, wound closure). On the 5th and 15th days, there was no difference between the groups in terms of ecchymosis. On the fifth and 15th day of postpartum, it was determined that the perception of episiotomy pain in the mothers in the training group was lower than in the mothers in the control group. It is advisable for nurses and midwives to offer educational sessions for postpartum mothers focused on the appropriate care of the episiotomy site. This initiative aims to facilitate recovery and alleviate pain perception, ultimately promoting a positive recovery experience for mothers.

Limitations

The study is subject to certain limitations. Specifically, factors such as the assessment of the episiotomy wound size, the techniques utilized for suturing, and the variability among the individuals performing the suturing may impact the results. These elements should be taken into consideration when interpreting the findings. Additionally, in the hospital where the research was carried out, the most births of the city occur and only mediolateral episiotomy is performed in this hospital. Therefore, the research findings are limited to women with mediolateral episiotomy. The results obtained cannot be generalized to women with median and lateral episiotomy.

IMPLICATIONS FOR NURSING PRACTICE

Nurses and midwives should provide training on women's genital hygiene and episiotomy care in the early postpartum period. Preparing standard documented brochures for genital hygiene and episiotomy care training to accelerate wound healing and reduce episiotomy-related pain. Providing episiotomy wound care training and counseling, especially to women in underdeveloped and developing countries who have problems accessing drugs, will contribute to reducing episiotomy pain and providing wound

healing. It is recommended to monitor the wound healing process after discharge.

Author Contributions

Plan, design: GB, SÇ; Material and methods GB, SÇ; Data collection: GB; Data analysis. Statistical expert; Comments: GB, SÇ; Writing and corrections: GB, SÇ

Acknowlendgement

The article has not been presented as a paper before and no financial support has been received from individuals or organizations for the study. There is no conflict of interest.For conducting the study, an ethical committee approval was obtained from Non-Interventional Clinical Research Ethics Committee

REFERENCES

Alvarenga, M. B., Francisco, A. A., Oliveira, S. M. J. V. D., Silva, F. M. B. D., (2015). Shimoda, G. T., & Damiani, L. P. Episiotomy healing assessment: redness, oedema, ecchymosis, discharge, approximation (REEDA) scale reliability. Revista latino-americana de enfermagem, 23, 162-168 https://doi.org/10.1590/0104-1169.3633.2538

Adlia, A., & Sumartono, C. (2020). Comparison of post-caesarean section wound healing methods based on REEDA scale and platelet lymphocyte ratio. Systematic Reviews in Pharmacy, 11(7), 314-318.

Balcik Colak, M., & Ozturk Can, H. (2021). Effects of the time of pregnant women's admission to the labor ward on the labor process and interventions. Health Care for Women International, 42(4-6), 563-579. https://doi.org/10.1080/07399332.2020.1716763

Bick, D. (2009). Postpartum management of the perineum. British Journal of Midwifery, 17(9), 571-577. https://doi.org/10.12968/bjom.2009.17.9.43890

Beleza, A. C. S., Ferreira, C. H. J., Driusso, P., dos Santos, C. B., & Nakano, A. M. S.(2017). Effect of cryotherapy on relief of perineal pain after vaginal childbirth with episiotomy: a randomized and controlled clinical trial. Physiotherapy, 103(4), 453458. https://doi.org/10.1016/j.physio.2016.03.003

Bolatlı G. (2018) Clinical Anatomy of Perineum Fascia. Perine fasyaları anatomisi. Sakarya Üniversitesi Holistik Sağlık Dergisi, SAUHSD, 1(1):2-15. https://dergipark.org.tr/en/pub/sauhsd/issue/41125/457485

Buran, G., & Aksu, H. (2022). Effect of hypnobirthing training on fear, pain, satisfaction related to birth, and birth outcomes: a randomized controlled trial. Clinical Nursing Research, 10547738211073394.

Çobanoğlu, A., & Şendir, M. (2019). Evidence-based practices in episiotomy care. Florence Nightingale Journal of Nursing, 27(1), 48-62. doi: 10.26650/FNJN345977

Charnock, D., & Shepperd, S. (2020). DISCERN: Quality criteria for consumer health information. Radcliffe Online.

Clesse, C., Lighezzolo-Alnot, J., De Lavergne, S., Hamlin, S., & Scheffler, M. (2019). Factors related to episiotomy practice: an evidence-based medicine systematic review. Journal of Obstetrics and Gynaecology, 39(6), 737-747.747 https://doi.org/10.1080/01443615.2019.1581741

Clesse, C., Lighezzolo-Alnot, J., De Lavergne, S., Hamlin, S., & Scheffler, M. (2018). Statistical trends of episiotomy around the world: Comparative systematic review of changing practices. Health care for women international, 39(6), 644-662. https://doi.org/10.1080/07399332.2018.1445253

Çobanoğlu, A., & Şendir, M. (2020). The effect of hypericum perforatum oil on the healing process in the care of episiotomy wounds: A randomized controlled trial. European Journal of Integrative Medicine, 34, 100995. https://doi.org/10.1016/j.eujim.2019.100995

Durmaz, A., & Buğdaycı, R. (2013). Epizyotomi iyileşmesini etkileyen faktörler/Factors affecting the healing of episiotomy. Turkish Journal of Public Health, 11(2), 72-85. https://dergipark.org.tr/en/pub/

tjph/issue/16567/173016

El-Lassy, R. B. M., & Madian, A. A. E. A. M. (2019). The effect of infrared lamp therapy on episiotomy wound restorative besides pain relief among post-partum women. Journal of Nursing Education and Practice, 9(2), 20-30.https://doi.org/10.5430/jnep.v9n2p20

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: a flexible statistical power analysis program for the social, behavioral, and biomedical sciences. Behavior Research Methods, 39(2), 175–191. https://doi.org/10.3758/BF03193146

Friedman, A. M., Ananth, C. V., Prendergast, E., D'Alton, M. E., & Wright, J. D. (2015). Variation in and factors associated with use of episiotomy. Jama, 313(2), 197-199. doi:10.1001/jama.2014.14774

Golezar, S. (2016). Ananas comosus effect on perineal pain and wound healing after episiotomy: a randomized double-blind placebo-controlled clinical trial. Iranian Red Crescent Medical Journal, 18(3). doi: 10.5812/ircmj.21019

Hajhashemi, M., Ghanbari, Z., Movahedi, M., Rafieian M., Keivani A., & Haghollahi F. (2017). The effect of achilleamillifolium and hypericum perfaratum ointments on episiotomy wound a healing in primiparous women. J Matern Fetal Neonatal Med, 31(1), 63-9. https://doi.org/10.1080/14767058.2016.1275549

Hayes, M., H., S., Patterson D G. (1921) Experimental development of the graphic rating method. Psychological Bulletin, 18,98–99. https://scholar.google.com

Haisfield-Wolfe, M., E., Rund C., A. (2000) Nursing protocol for the management of perinealrectal skin alterations. Clinical Journal Oncology Nursing. 4(1): 15-21. 6.

Hill, P. D. (1990). Psychometric properties of the REEDA. Journal of nurse-midwifery, 35(3), 162-165. https://doi.org/10.1016/0091-2182(90)90166-3

Kalis, V., Rusavy, Z., Prka, M. (2017). Episiotomy. In: Doumouchtsis, S. (eds) Childbirth Trauma. Springer, London. https://doi.org/10.1007/978-1-4471-6711-2_6

Karaçam, Z., Ekmen, H., Çalişır, H., & Şeker, S. (2013). Prevalence of episiotomy in primiparas, related conditions, and effects of episiotomy on suture materials used, perineal pain, wound healing 3 weeks postpartum, in Turkey: A prospective follow-up study. Iranian Journal of Nursing and Midwifery Research, 18(3), 237-245. https://doi.org/10.1046/j.1365-2648.2003.02727.x

Kim, H. J., An, J. W., Lee, Y., & Shin, Y. S. (2020). The effects of cryotherapy on perineal pain after childbirth: A systematic review and meta-analysis. Midwifery, 89, 102788. https://doi.org/10.1016/j.midw.2020.102788

Jha, S. (2020). Episiotomy: necessity or negligence? BJOG: an international journal of obstetrics and gynaecology, 127 (11),1408 https://doi.org/10.1111/1471-0528.16272

Marzouk, T., Barakat, R., Ragab, A., Badria, F., & Badawy, A. (2015). Lavender-thymol as a new topical aromatherapy preparation for episiotomy: a randomised clinical trial. Journal of Obstetrics and Gynaecology, 35(5), 472-475. https://doi.org/10.3109/01443615.2014.970522

Mirouse, L. (2022). Ignoring international alerts? The routinization of episiotomy in France in the 1980s and 1990s. Reproductive Biomedicine & Society Online, 14, 42-52. https://doi.org/10.1016/j.rbms.2021.07.002

Mohamed, E. A. E., Mohamed, M. A. E., & Ahmed, A. F. (2016). Effect of light therapy on episiotomy in postpartum women. International Journal of Therapies and Rehabilitation Research, 5(2), 9. DOI:10.5455/ijtrr.000000119

Mohamed, H. A. E., & El-Nagger, N. S. (2012). Effect of self perineal care instructions on episiotomy pain and wound healing of postpartum women. Journal of American Science, 8(6), 640-650. https://scholar.

google.com

Muhammad, M. A. (2021). Knowledge and Practices Regarding Episiotomy and Perineal Care among Primiparous Women. Indian Journal of Forensic Medicine & Toxicology, 15(3). https://10.37506/ijfmt.v15i3.16269

Nethrauathi, V., Kshirsagar, N.S., & Satish, V.K. Effectiveness of infrared lamp therapy on healing of episiotomy wound among postnatal mothers. Health Science Journal, 2015; 9(5:3):1-5. DOI:10.5455/ijtrr.000000119 https://scholar.google.com

Pebolo, P. F., Judith, A., & Dan, K. K. (2020). Episiotomy related morbidities measured using redness, edema, ecchymosis, discharge and apposition scale and numerical pain scale among primiparous women in Mulago National Referral Hospital, Kampala, Uganda. Pan African Medical Journal, 36(1). https:// 10.11604/pamj.2020.36.347.25049

Ramesh, S., Tripathy, S., Sen, M., & Nandi, D. (2024). Effects of Far Infrared Radiation and Sitz Bath on Perineal Wound Healing and Pain in Primiparous Women Undergoing an Episiotomy: A Randomized Prospective Parallel Arm Study. Cureus, 16(8). http://10.7759/cureus.67477

Random.Org Lists. Generate Numbers, (accessed online 10/02/2022 www.random.org).

Roch, M., Gaudreault, N., Cyr, M. P., Venne, G., Bureau, N. J., & Morin, M. (2021). The female pelvic floor fascia anatomy: A systematic search and review. Life, 11(9), 900. https://doi.org/10.3390/life11090900

Sarbaz, Z., Yazdanpanahi, Z., Hosseinkhani, A., Nazari, F., & Akbarzadeh, M. (2019). The effect of sitz bath of hydro-alcoholic extract of myrrh gum on episiotomy wound healing in nulliparous women. Journal of Family & Reproductive Health, 13(2), 89. PMID: 31988645 from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6969889/)

Samuel, A. E., Obafemi, S. J., Amere, L. T., Nweke, I. C., Inuwa, A. S., & Ringkat, P. (2021). Effectiveness of an Educational Intervention on Knowledge of Postpartum Perineal Wound Care amongst Antenatal Mothers in Jos. Medicine and Clinical Science, 3(2). from http://www.sciencexcel.net/medicine-and-clinical-science/article/view/86)

Tabachnick, B., G., & Fidell L., S. Using multivariate statistics (6 ed). Pearson. 2013. (accessed online 10/02/2022 https://ebookcentral-proquest com. ezproxy.lib.monash.edu.au/lib/monash/detail.action?docID=5175291).

Tantengco, O. A. G., & Velayo, C. L. (2022). Episiotomy practice and perineal trauma in the Philippines. The Lancet Regional Health–Western Pacific, 19. https://doi.org/10.1080/07399332.2020.1716763

Tex-Jack, D., & Eleke, C. (2021). Perspectives of skilled birth attendants and pregnant women regarding episiotomy: a quantitative approach. African Health Sciences, 21(3), 1355-1361. doi: 10.4314/ahs.v21i3.47

The CONSORT 2010 Flow Diagram. (2022, Mar). http://www.consortstatement.org/Media/Default/Downloads/CONSORT%202010%20Flow%20Diagram.pdf

The CONSORT 2010 Checklist. (2022, Mar). http://www.consort-statement.org/consort-2010

Tomaz, R. G. D. O., Brito, A. P. A., & Riesco, M. L. G. (2021). Implementation of evidence-based practices in the perineal pain management in the postpartum period. Revista Brasileira de Enfermagem, 75. https://doi.org/10.1590/0034-7167-2021-0084

Üstünsöz A. Epizyotomi İyileşmesinde Sıcak ve Soğuk Uygulamaların Etkisi. Yüksek Lisans Tezi, Gülhane Askeri Tıp Akademisi Sağlık Bilimleri Enstitüsü, Ankara, 1996. https://scholar.google

Yanık, N. T., & Ertem, G. (2020). Epizyotomi sonrası perineal ağrının tedavisinde kullanılan non farmokolojik yöntemlerin sistematik açıdan incelenmesi. Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi, 9(2), 195–208. https://doi.org/10.37989/gumussagbil.487004

Ye, J., Chen, Y., Yang, H., Chen, Q., Huang, Y., Zhao, J., ... & Zhang, J. (2022). A nationwide cross-sectional survey of episiotomy practice in China. The Lancet Regional Health-Western Pacific, 19, 100345. https://doi.org/10.1016/j.lanwpc.2021.100345

Yıldız, Karaahmet A., & Yazıcı, S. (2017). The Current Stage of Episiotomy (Epizyotomide Güncel Durum). Sağlık Bilimleri ve Meslekleri Dergisi/Journal of Health Sciences and Professions 4(1), 57-63. DOI: 10.17681/hsp.270072

Zaami S, Stark M, Beck R, Malvasi A, & Marinelli E. Does episiotomy always equate violence in obstetrics? Routine and selective episiotomy in obstetric practice and legal questions. Eur Rev Med Pharmacol Sci 2019; 23(5): 1847-1854. DOI: 10.26355/eurrev_201903_17219

Wewers, M. E., and Lowe, N. K. (1990). A critical review of visual analogue scales in the measurement of clinical phenomena. Res. Nurs. Health 13, 227–236. https://doi.org/10.1002/nur.4770130405

World Health Organization. (2018). WHO recommendations: intrapartum care for a positive childbirth experience: transforming care of women and babies for improved health and well-being: executive summary (No. WHO/RHR/18.12). World Health Organization, Geneva 2018. https://apps.who.int/iris/bitstream/handle/10665/272447/WHO-RHR-18.12-eng.pdf