



(RESEARCH ARTICLE)



## Relationship between episiotomy and dyspareunia. A narrative review of the most recent literature

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### Abstract

Vaginal and perineal tears during normal labor may require suturing, but can leave painful scars. Episiotomy, a surgical transection of the perineum during the second stage of labor, is performed to prevent large, uncontrollable perineal ruptures and to facilitate delivery. However, it is associated with long-term complications such as chronic pain, sexual dysfunction, urinary incontinence, and dyspareunia. The incidence of dyspareunia after episiotomy varies depending on the procedure and time postpartum. The purpose of this work is to study the most up-to-date data relating the occurrence of dyspareunia to the previous episiotomy. Several studies link episiotomy to dyspareunia. Jiang et al. (2017) found no significant difference in dyspareunia rates between routine and selective episiotomy (12.9% vs. 14.8%). Manresa et al. (2019) reported that up to 12 months postpartum, women with episiotomy experienced increased perineal pain and dyspareunia, with more pronounced symptoms if perineal trauma or episiotomy occurred. A 2020 study by Manresa et al. showed that transecting the transverse perineal muscle during episiotomy resulted in prolonged symptoms. Novo et al. (2020) found a 23.4% dyspareunia rate at 12 months, with episiotomy as a contributing factor (PR 1.2). Other studies also found higher dyspareunia rates post-episiotomy, though some (Gun et al., 2016; Fodstad et al., 2016) did not find a clear link. Most recent studies suggest a direct correlation between episiotomy and dyspareunia, with rates ranging from 13% to 60% in the first year postpartum. A key risk factor is the cross section of the transverse perineal muscles during the episiotomy.

**Keywords:** Episiotomy; Perineotomy; Dyspareunia; Sexual dysfunction

### 1 Introduction

Many times, during normal labor in the phase of the exit of the fetal head, tears are caused in the vagina and in the adjacent tissues of the perineum which may extend to the anus. These tears are repaired with suturing, however their repair can be delayed and leave painful scars. Episiotomy is the surgical transection of the perineum, during the second stage of labor, with the aim of improving its outcome, both for the woman, as well as for the newborn baby, in fact, the episiotomy has been considered to help the exit of the baby, at the same time preventing the large or uncontrollable rupture of the perineum (1). Naturally, episiotomy has been associated with some long-term complications, such as chronic pain, sexual dysfunction and urinary incontinence (2). This particular surgical procedure was first described as early as 1741 by F. Ould(3) and today, although not performed as a routine procedure in every delivery, it is one of the most commonly fulfilled surgical procedures conducted on the female population – in the U.S. for example in 2012 it was performed in 12% of normal deliveries(4).

The complications of episiotomy can be immediate (bleeding, swelling, inflammation of the surgical wound, injury of the anal sphincter, urethra and bladder, pain and opening of the surgical wound) and in a later phase (chronic persistent inflammation, anorectal disorders, urinary incontinence, pelvic organ prolapse, chronic pain and sexual disorders – dyspareunia) (5). The rates of pain reported in the literature during sexual intercourse (dyspareunia), after childbirth,

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with episiotomy performed vary, depending on the procedure followed and the period of time after childbirth. The purpose of this work is to study the most up-to-date data relating the occurrence of dyspareunia to the previous episiotomy.

## 2 Material and methods

To carry out the present research, the tool of descriptive (narrative) review was used, which, in relation to the systematic review, has the advantage of following a more narrative character, while, although it includes to a certain extent its strict methodology, it omits some stages. In addition, the data of the selected studies will be presented separately without giving an aggregated result obtained through specific statistical procedures, as is the case in meta-analysis(6). The databases used to identify the most relevant bibliographic data were: Pubmed-NCBI, Cochrane Library, and Google Scholar. The key words (mesh terms) used during the search were: Episiotomy, Perineotomy, Dyspareunia, Sexual dysfunction. The initial filter set was the surveys of the last five years. The initial search resulted in 262 published studies, due to the small size of this review it was decided to report the most recent studies, as well as some important reviews from the last five years. Figure 1 shows the flow chart, while Table 1 summarizes the review.

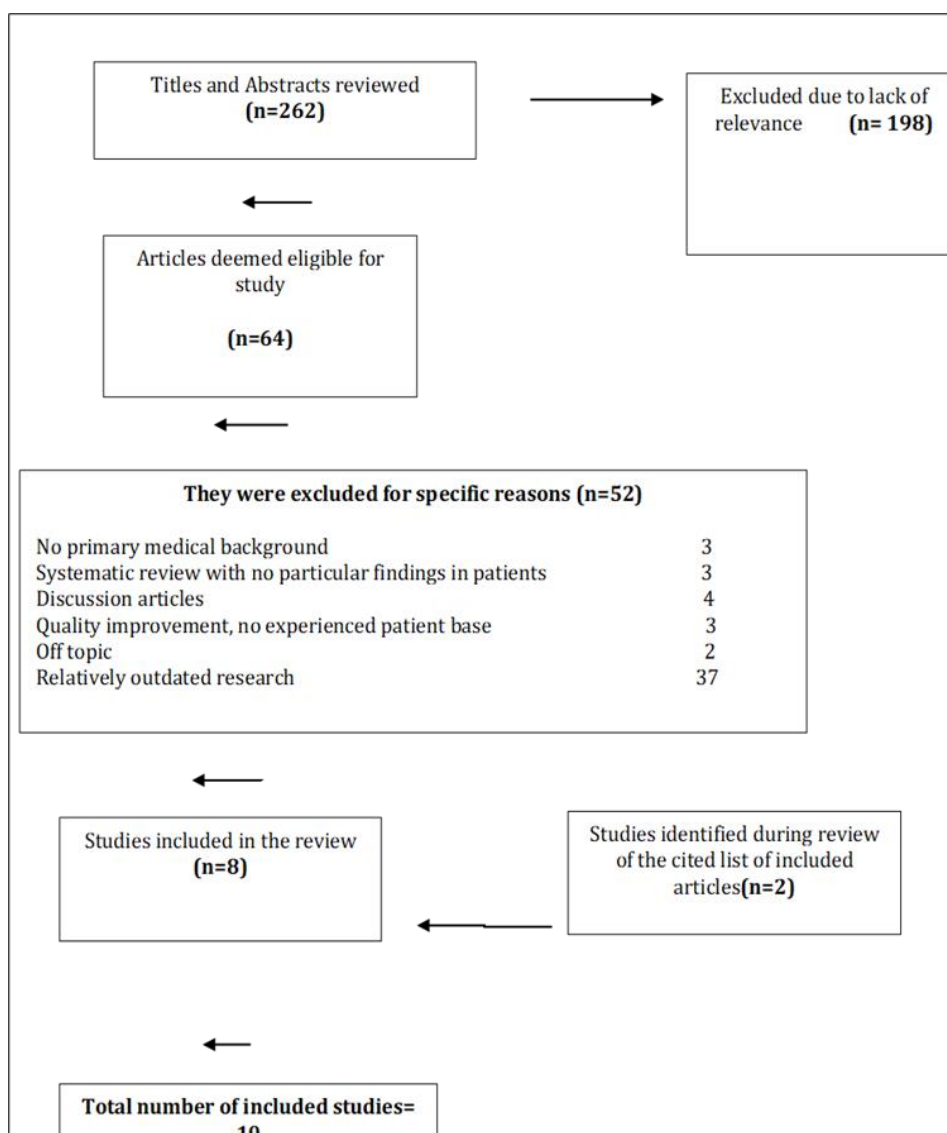


Figure 1 The flowchart of the present systematic review according to the PRISMA 2009 standard(7)

**Table 1** Summary characteristics of the literature review

SN.	Study	Key Features	Main Findings
1	Manresa et al, 2020.	Retrospective study (405 women)	The depth of the surgical wound during episiotomy plays an important role in the intensity and duration of dyspareunia.
2	Novo et al, 2020.	Retrospective prevalence study of 6436 women	Episiotomy is directly associated (PR 1.2) with the occurrence of dyspareunia.
3	Manresa et al, 2019	Systematic Review and meta-analysis (16 studies, 3133 women)	The presence of dyspareunia is directly related to episiotomy.
4	Huy et al, 2019	Retrospective study (158 women)	Three months after episiotomy the rate of dyspareunia is 58.5%.
5	Trivino- Juerez et al, 2018	Retrospective study (552 primiparous women)	In the 6th week after delivery, episiotomy is one of the causes of dyspareunia.
6	O'Malley et al, 2018.	Series study (832 primiparous mothers)	Episiotomy is directly associated with the occurrence of dyspareunia up to 12 months postpartum.
7	Jiang et al, 2017.	Systematic Review and meta-analysis (12 studies, 6177 women)	About 13% of women after episiotomy experienced long-term ( $\geq 6$ months) dyspareunia.
8	Necosalova et al, 2016.	Retrospective study of 648 women	About 16% of women 6 months after giving birth with an episiotomy showed a significant degree of dyspareunia.
9	Gun et al, 2016	Literature review	It is not clear whether episiotomy is associated with dyspareunia in the long term.
10	Fodstat et al, 2016	Retrospective study of 561 women	Episiotomy is not a factor in the occurrence of dyspareunia, nor in delaying the resumption of sexual life.

### 3 Results and discussion

In 2017, Jiang et al. (1) published in the Cochrane Database of Systematic Reviews, which is considered one of the most reliable medical databases, a systematic review and meta-analysis of the previous literature on whether there is a difference between selective and routine episiotomy during labor. Among the study's reported findings were that on a long-term basis ( $\geq 6$  months), the risk of dyspareunia was 12.9 per 100 women undergoing routine episiotomy and 14.8 per 100 women undergoing selective episiotomy – a difference which is not statistically significant, however it gives a clear indication of the frequency of occurrence of this particular complication. The second meta-analysis included in this literature review and published by Manresa et al. in 2019(8), after reviewing 16 studies (3133 women) concluded that: Episiotomy is associated, up to twelve months after delivery, with increased pain in the woman's perineum and during the same period of time, dyspareunia was present, even in the case that no episiotomy was performed, however, the symptomatology was more pronounced if there was trauma to the perineum or episiotomy during labor.

The most recently published study that of Manresa et al., 2020(9) (retrieved from the internet, pending publication) is of particular interest as it investigated the role played by the depth of the surgical wound caused during episiotomy. It was found, therefore, that a very important role is played, during the episiotomy, by the sectioning of the transverse perineal muscle (STPM), as in all cases the muscle that is sectioned is the bulbospongiosus muscle (BSM): If  $> 50\%$  of the BSM is dissected, without sectioning the STPM, the dyspareunia and perineal pain does not last more than 10 days, while in the case where the STPM has also been transected, the symptoms last even 6 months after the labor. In another of the more recent studies, Novo et al. (2020)(10) (retrospective prevalence study including 6436 women) found that 12 months postpartum, the incidence of dyspareunia was 23.4% and one of the factors that had a direct correlation with the appearance of this complication was episiotomy during labor, (with a prevalence ratio – PR) 1.2 (the other factors that were associated were having dyspareunia during pregnancy with PR: 2.1, as well as breastfeeding, with PR: 1.2).

In 2019, Huy et al. (11) published a retrospective study of 158 women to investigate the complications of episiotomy. Three months after giving birth, 40.7% of the women reported dysfunctions in their sexual life (disorders in desire in 68.9% of them and dyspareunia in 58.5%). The authors' conclusion was that special care is needed when performing this relatively simple surgical technique, in order to restore, as quickly as possible, the function of the pelvic floor and also the sexual function of women. Trivino-Juarez et al. (12) in 2018 published a retrospective study of 552 primiparous women, with the aim of investigating the frequency and causes of dyspareunia at 6 weeks and 6 months postpartum. The results of this study were that episiotomy was one of the factors associated with the occurrence of dyspareunia during the 6th week after delivery – on the contrary, at the 6th month the same correlation did not occur (breastfeeding was the main factor during this period). In the same year O'Malley et al. (13), published the MAMMI study, a series study of 832 primiparous mothers in which factors associated with disturbances in their sex life 6 and 12 months after delivery were investigated. Among the findings of this study were that compared to women who did not sustain an injury to their perineum, women who had a second-degree tear, an episiotomy, and a third-degree perineal tear were significantly more likely to have dyspareunia 6 months postpartum, while at 12 months, the group with 3rd degree perineal tear as well as the episiotomy group had a significant risk of maintaining dyspareunia. In another retrospective study of 648 women, Necesalova et al. (14) in 2016 found that 6 months after delivery by episiotomy, the percentage of women who experienced the side effect of dyspareunia was around 16%. At the end of this literature review, we will mention two published studies that did not conclusively prove the association of episiotomy with dyspareunia: First, it is the extensive literature review by Gun et al. (2016) (5), who in their conclusions, since they reported that problems in sex life (mainly dyspareunia) are common after labor, there is no clear evidence that episiotomy is a long-term cause of this complication. In the same year, Fodstad et al. (15) published a retrospective study with a questionnaire of 561 women regarding the occurrence of problems in their sexual life after childbirth and concluded, among other things, that episiotomy was not a risk factor for delaying the onset of sexual life, but also for the appearance of dyspareunia one year after delivery.

Dyspareunia is a major health problem for women, with around one in five suffering from it at some point in their lives. This literature review investigated the most up-to-date literature data from the last five years regarding the effect of episiotomy on its appearance. Despite the fact that there are studies that do not link the two conditions, the most recent and appropriate qualitative studies show a direct correlation in rates ranging from 13% to 60% during the first year after childbirth. Another very important recent finding is that one of the risk factors for the occurrence of dyspareunia is the cross section of the transverse perineal muscles during the episiotomy.

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#### **4 Conclusion**

Based on the research, dyspareunia is identified as a major postpartum problem that many women suffer from with different frequencies. This paper also focuses on how episiotomy is a contributing factor in the development of dyspareunia which is influenced by breastfeeding, individual characteristics and the extent of perineal tear. The most recent high-quality research shows a very strong relationship between episiotomy and dyspareunia particularly in the first year after delivery even though some studies fail to make significant findings.

The effect of the transverse perineal muscle (STPM) incision during episiotomy is a crucial discovery. When compared to cases where only the bulbospongiosus muscle (BSM) is partially incised, women are at a higher risk of developing dyspareunia and chronic perineal pain if the STPM is divided. This underlines the need to ensure that the right techniques are employed in the episiotomy to minimize on the amount of damage that is done as well as the complications that may arise from it.

There should be a change in the clinical practices to encourage the use of selective episiotomy and enhancement of measures that will help in the preservation of the pelvic floor to minimize the adverse effects that may be seen in the future. Postpartum care should also include the early resumption of sexual function and perineal care to enhance the quality of life of women.

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#### **Compliance with ethical standards**

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##### *Disclosure of Conflict of interest*

No conflict of interest to be disclosed.

### *Statement of informed consent*


Informed consent was obtained from all individual participants included in the study.

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**Author's short biography**

<p><b>Aikaterini E. Sousamli:</b> Born in January 1978 in the USA and repatriated in the year 1990 to the city of Mytilene where I graduated from Secondary Education with a grade of "Twenty" (20/20). Then, in the year 2000, I graduated from the Athens University of Midwifery with a grade of "7.26", continuing the tradition of my family circle in midwifery. After a few years of working in the private sector, I was hired as a "Midwife" at I.K.A. where I still work today. Since 2007 I am married and now a mother of three children. As a permanent resident of the city of Larissa, I was given the opportunity and in 2021, I graduated from the Msc "Primary Health Care", of the Department of Medicine, University of Thessaly as first honors with a grade of "9.65". From March 2023, I am a PhD candidate at the University of Western Attica, Department of Midwifery, with supervising professor Dr. Sarandaki Antigoni, on the topic "Study of perinatal factors related to the appearance of ASD in the child and the dynamics of his family". Reviewer for the scientific journal, Journal of Gynecology and Obstetrics.</p>	
<p><b>Panagiota D. Dourou:</b> Panagiota Dourou is a midwife at the Medically Assisted Reproduction Unit of the Athens Naval Hospital and the Head Midwife at the Parenthood Preparation Center. She specializes in supporting individuals and couples who achieve pregnancy after infertility treatment. She earned her degree in Midwifery from the Higher Technological Educational Institute of Athens and pursued postgraduate studies at the National and Kapodistrian University of Athens in the program "Research in Female Reproduction". Her diploma thesis focused on "Stress and Infertility: Their Effects on a Couple's Quality of Life." Currently a PhD candidate at the University of Western Attica, her research explores "Factors Related to Fertility and the Decision to Create a Family Among Women with Multiple Sclerosis: Perinatal Obstetric Care Planning." With 18 years of experience in Obstetrical Care, Parenthood Preparation, and Assisted Reproduction, she has published in scientific journals and actively participates in related conferences. Her career includes extensive collaboration with Obstetricians-Gynecologists. To ensure I stay up-to-date with the latest advancements and best practices, I regularly attend relevant conferences and seminars.</p>	