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ASSOCIATION OF MODE OF DELIVERY AND DYSPAREUNIA: SYSTEMATIC REVIEW

Eldwin Laurenso Lomi*

**Faculty of Medicine, Hang Tuah University, Indonesia*

Corresponding Author:-
eldwinlaurenso@yahoo.com

Abstract

A condition that causes sexual activity to be unpleasant is one that impacts the health of a significant number of women. Dyspareunia is the term used to describe the ailment within the medical community. It is a challenging condition that, despite the intricacy of the issue, is routinely disregarded. It has also been shown that postpartum dyspareunia can occur at a variety of times following childbirth and over a variety of time periods. The percentage of people who are affected by the illness around the world ranges from 3 to 18 percent. The incidence of dyspareunia ranged from 30–60% in the first three months after giving birth, according to the findings of a study. However, this number reduced to 17–31% after six months had passed. The mode of birth, perineal damage, episiotomy, previous history of dyspareunia, breastfeeding, and the number of previous pregnancies are all considered to be risk factors for postpartum dyspareunia. In addition, a number of psychological problems, such as anxiety and depression, have been identified as significant factors in a number of studies. A number of studies have shown contradictory correlations, either between different associations or between different differences. Neither in regard to the method of distribution. Despite the findings of our study, the most common cause of dyspareunia is an aided or instrument-assisted vaginal birth.

Keyword: *Delivery; Dyspareunia; Sexual activity*

INTRODUCTION

Sexual activity that is uncomfortable is a condition that affects a lot of women's health. The condition is referred to as dyspareunia in the medical field. It is a difficult condition that is frequently ignored despite its complexity.[1] It is estimated that between 10 and 28 percent of the population may experience dyspareunia at some point in their lives. Following childbirth, many women experience postpartum dyspareunia.[2,3] The term "dyspareunia" refers to any type of pain that occurs during sexual activity and can be caused by either physical or psychological factors.[4–6]

The incidence of postpartum dyspareunia has shown a dramatic rise in recent years.[7] Postpartum dyspareunia has also been recorded at various times after childbirth invarious time periods. The global prevalence of the condition ranges from 3 to 18 percent.According to the findings of a study, the prevalence of dyspareunia ranged from 30–60%in the first three months after giving birth, but dropped to 17–31% after six months had passed.[8] The causes of dyspareunia include structural, inflammatory, infectious, neoplastic, traumatic, hormonal, and psychosocial factors. Anatomical causes include dysfunction of the pelvic floor muscles, uterine retroversion, hymenal remnants, and prolapse of the pelvic organs.[9,10]

Considered to be risk factors for postpartum dyspareunia are the method of birth, perineal injury, episiotomy, previous history of dyspareunia, lactation, and number of previous pregnancies. Additionally, various psychological elements, such as stress and sadness, have been described in several studies as contributing factors.[8,10–12] According to the findings of several research, trauma that occurs after a vaginal delivery, specifically an episiotomy, a perineal tear, or an instrumental delivery, might lead to dyspareunia. One of the reasons that mothers choose to have elective cesarean sections is because they are concerned about sustaining a perineal injury. In this regard, dyspareunia after caesarean delivery was observed anywhere from 2-29% of the time.[11] This article investigate the association of mode of delivery and dyspareunia.

METHODS

Protocol

This review followed the guidelines established by Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) 2020. The regulations were based on the items on this list.

Eligibility Criteria

This systematic review was developed to assess literature on “delivery” and “dyspareunia”. These are the subjects that were thoroughly covered in the study under consideration. The following conditions must be met in order for your work to be taken into consideration: 1) In order to be accepted, articles must be written in English. 2) In order to be considered, the articles had to have been published after 2017, but before this systematic review was created. The following types of textual entries will not be considered for inclusion in the anthology: 1) Editorial letters, 2) submissions without a Digital Object Identifier (DOI), and 3) article reviews and submissions equivalent to those previously published in the journal.

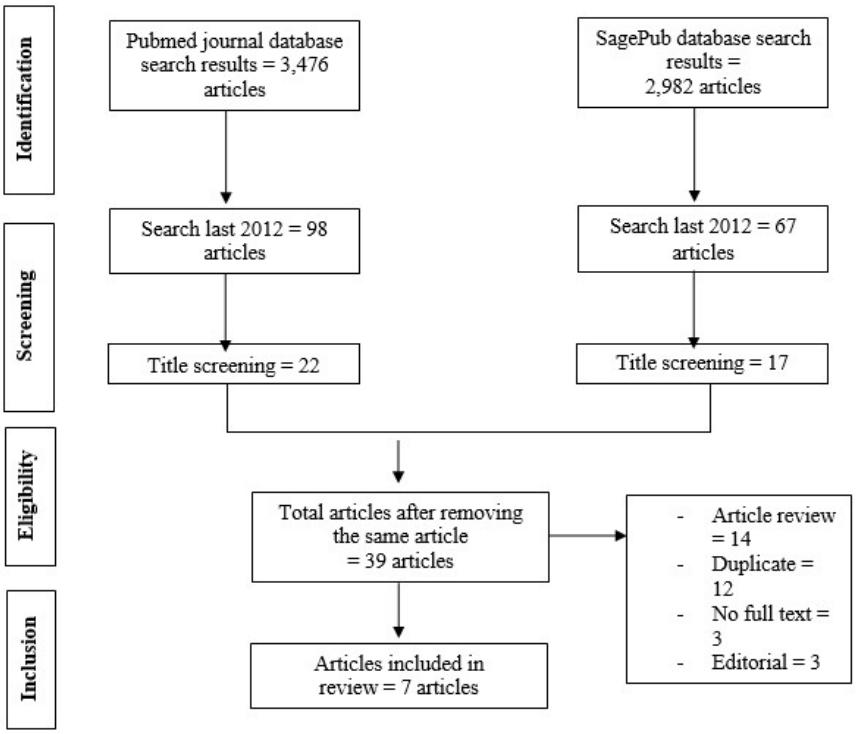

Figure 1. Article search flowchart

Search Strategy

The search for studies to be included in the systematic review was carried out from December, 19nd 2022 using the PubMed and SagePub databases by inputting the words: "mode delivery" and "dyspareunia". Where *"mode"[All Fields] AND ("deliveries"[All Fields] OR "delivery, obstetric"[MeSH Terms] OR ("delivery"[All Fields] AND "obstetric"[All Fields]) OR "obstetric delivery"[All Fields] OR "delivery"[All Fields]) AND ("dyspareunia"[MeSH Terms] OR "dyspareunia"[All Fields])* is used as search keywords.

Data retrieval

The study's author reworked the inclusion and exclusion criteria after doing a literature review and analyzing the titles and abstracts of previously published research. You can find the updated criteria in the study's supplementary materials. This was done to narrow down the scope of the problem and establish which aspects needed further investigation. The author reached this conclusion after reviewing similar studies that hadalready been done and published.

It was determined during the process of compiling the systematic review that onlystudies that adhered to all of the criteria should be included. This meant that only research ideas that fulfilled all of the requirements would be taken into consideration. This was done so that the assessment would be as thorough as feasible. The purpose was to collect information about each individual study, such as its title, author, publication date, origin of study location, research study design, and research factors. This type of data can be obtained. The following are some instances of information that could be gathered: This information can be presented to you in a variety of ways, depending on the presentation manner you want.

Quality Assessment and Data Synthesis

To decide which papers should be examined, the authors conducted independent evaluations of a subset of the research offered in the article titles and abstracts. Then, thecomplete texts of the studies that satisfy the inclusion criteria for the systematic review will be evaluated to determine which publications will be included in the review. This is done in response to the query, "Which studies may be utilized for the review?"

RESULT

First study conducted with 21.2% who reported dyspareunia at 6 months postpartum. Nearly a third of those breastfeeding at 6 months reported dyspareunia (31.5%), versus 12.7% of those not breastfeeding (adjusted odds ratio [aOR] = 2.89, 95%confidence interval [CI] = 2.33–3.59, P < 0.001); 32.5% of those reporting a big or medium problem with perineal pain at 1-month reported dyspareunia at 6 months versus15.9% of those who did not (aOR = 2.45, 95% CI = 1.93–3.10, P < 0.001); 28.3% of women who reported fatigue all or most of the time at 1 month reported dyspareunia at 6months versus 18.0% of those who reported fatigue less often (aOR = 1.60, 95% CI = 1.30–1.98, P <0.001); and 24.1% of those who scored in the upper third on the stress scaleat 1 month reported dyspareunia at 6 months postpartum, compared to 15.6% of those who scored in the lowest third (aOR = 1.55, 95% CI = 1.18–2.02, P = 0.001).[11]

McDonald, *et al* (2016)[3] study showed 83% women completed the baseline and all four postpartum questionnaires; 1211/1237 (98%) resumed vaginal intercourse by 18 months postpartum, with 289/1211 (24%) experiencing dyspareunia. Compared to women who had a spontaneous vaginal delivery with an intact perineum or unsutured tear, women who had an emergency caesarean section (aOR = 2.41, 95% CI = 1.4–4.0; P
= 0.001), vacuum extraction (aOR = 2.28, 95% CI = 1.3–4.1; P = 0.005), or elective caesarean section (aOR = 1.71, 95% CI = 0.9–3.2; P = 0.087) were more likely to reportdyspareunia at 18 months postpartum.

During the postpartum period, the majority of the women (58.3% of them) reported suffering from dyspareunia. According to the Arizona Sexual Experience Scale,

91.3 percent of women had a total score >11, indicating that they struggled with sexual issues during the first postpartum year. This study shows that patients who experience sexual disorders are more than patients who underwent cesarean section.[13]

Table 1. The litelature include in this study

Author	Origin	Method	Sample Size	Result
Alligood-Percoco, 2016[11]	USA	Cross sectional	2,748	21.2% reported dyspareunia six months postpartum. Nearly a third of those breastfeeding at 6-months reported dyspareunia (31.5%), compared to 12.7%of those not breast feeding (adjusted OR [aOR] = 2.89, 95% CI = 2.33–3.59, P <0.001); 32.5% of those reporting a big or medium problem with perineal painat 1-month reported dyspareunia at 6 months, compared to 15.9% of those whodid not (aOR = 2.45, 95% CI = 1.93–3.10, P <0.001); 28.3% of women who reported fatigue all or most of the time at 1-month reported dyspareunia at 6 months.
Acele, 2012[13]	Turkey	Descriptive survey	230	During the postpartum period, 58.3% of the women reported experiencing dyspareunia. In the current investigation, researchers found that women who had caesarean sections and those who had vaginal births experienced comparable amounts of postpartum sexual dysfunction.
Lagaert, 2017[8]	Belgium	Cross sectional	109	Sexual functioning at 6 weeks predicted sexual functioning at 6 months (rs = 0.345, p = 0.015). The frequency of dyspareunia was 32.8% in the third trimester of pregnancy, 51.0% at 6 weeks, and 40.7% at 6 months postpartum.Between 6 weeks and 6 months postpartum, the degree of discomfort decreased considerably (p = 0.003). The degree of dyspareunia was strongly linked with breastfeeding (p = 0.045) and primiparity (p =.020) in the first 6 weeks postpartum. Only the link with primiparity remained significant at 6 months (p = 0.022).
Kabakian,2015[14]	Lebanon	Cross sectional	238	67% reported experiencing pain during intercourse postpartum and 72.3% didnot seek care. Women having a cesarean delivery (1.96; CI (1.29–2.63)), who were primiparous (OR = 2.44; CI (2.05–2.83)) and residing in the Mount
				Lebanon region (OR = 1.25; CI (1.09–1.40)) were significantly more likely to report pain during intercourse postpartum.
McDonald, 20163	Australia	Cross sectional	1,507	83% women completed the baseline and all four postpartum questionnaires; 1211/1237 (98%) resumed vaginal intercourse by 18 months postpartum, with 289/1211 (24%) experiencing dyspareunia. Compared to women who had a spontaneous vaginal delivery with an intact perineum or unsutured tear, women who had an emergency caesarean section (aOR = 2.41, 95% CI = 1.4– 4.0; P = 0.001), vacuum extraction (aOR = 2.28, 95% CI = 1.3–4.1; P = 0.005), or elective caesarean section (aOR = 1.71, 95% CI = 0.9–3.2; P = 0.087) were more likely to report dyspareunia at 18 months postpartum.
Alkareem, 20174	Sudan	Cross sectional	154	The prevalence of postpartum dyspareunia in women attended the National Ribat University hospital was 42.6 %. Regarding age, 8 (61.5%) of women less than 20 years of age experienced dyspareunia, 102 (46.4%) and 52 (35.4%) of women whose age was 20-29 years; and more than 29 years experienced the condition. One hundred forty (51.7%) of women who delivered by normal vaginal delivery developed postpartum dyspareunia. Eight (72.7%), 8 (12.5%) and 6 (17.6%) of women delivered by Operative vaginal, Elective C/S and Emergency C/S developed postpartum dyspareunia respectively. One hundred forty-eight (62.4%), 153 (51.3%) women who had decircumcision and episiotomy in last delivery had postpartum dyspareunia respectively.
Dabiri, 201415	Iran	Cross sectional	150	29% of vaginal birth women and 37% of cesarean delivery women resumed sexual activity four weeks after delivery (p=0.280). Desire, arousal, lubrication, orgasm, pleasure, and pain were unaffected by delivery modality.

Lagaert, *et al* (2017)[8] showed sexual functioning at 6 weeks predicted sexual functioning at 6 months (rs = 0.345, p = 0.015). The frequency of dyspareunia was 32.8%in the third trimester of pregnancy, 51.0% at 6 weeks, and 40.7% at 6 months postpartum.Between 6 weeks and 6 months postpartum, the degree of discomfort decreased considerably (p = 0.003). The degree of dyspareunia was strongly linked with breastfeeding (p = 0.045) and primiparity (p = 0.020) in the first 6 weeks postpartum. Only the link with primiparity remained significant at 6 months (p = 0.022).

Kabakian, *et al* (2015)[14] showed 67% of women reported suffering discomfort during sexual activity after giving birth, yet 72.3% of those women did not seek medicalattention. Women who had a cesarean birth (1.96; CI (1.29–2.63)), who were primiparous(OR = 2.44; CI (2.05–2.83)), and who resided in the Mount Lebanon region (OR = 1.25;CI (1.09–1.40)) were substantially more likely to experience discomfort during intercourse postpartum.

Other study conducted by Alkareem, *et al* showed prevalence of postpartum dyspareunia in women attended the National Ribat University hospital was 42.6 %. Regarding age, 8 (61.5%) of women less than 20 years of age experienced dyspareunia, 102 (46.4%) and 52 (35.4%) of women whose age was 20-29 years; and more than 29 years experienced the condition. One hundred forty (51.7%) of women who delivered bynormal vaginal delivery developed postpartum dyspareunia.[4]

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DISCUSSION

The incidence of dyspareunia in women who are not pregnant ranges anywhere from 1.4 to 22%. It is a well-known fact that it is common for women to suffer sexual difficulties in the postpartum period, despite the fact that there are not many major prospective research on the subject.[16] There has been very little study carried out on the topic; nonetheless, studies have revealed that the prevalence of the condition ranges from 30–60% in the first three months following delivery, and then drops to 17–31% after sixmonths.[17]

Dyspareunia's cause includes structural, inflammatory, viral, neoplastic, traumatic, hormonal, and psychological disorders. Pelvic floor muscle dysfunction, uterine retroversion, hymenal remains, and pelvic organ prolapse are all anatomic reasons. Lack of lubrication is most frequent throughout the reproductive years and is caused by hormonal and sexual arousal issues. Contraception can result in insufficient lubrication in reproductive-aged females. Reduced estrogen levels in postmenopausal females, on the other hand, might promote vaginal atrophy by weakening the vaginal mucosa, which is crucial for increasing vaginal secretions. Endometriosis is the presence of endometrial glands and stroma outside the uterus.[2,18,19]

Possible risk factors for perineal pain after childbirth include: perineal trauma, mode of delivery, breastfeeding, parity and a history of dyspareunia. Perineal trauma can be caused by an episiotomy or a spontaneous perineal tear. The presence and extent of the perineal trauma seem to be related to the presence and intensity of dyspareunia 3–6 months postpartum.[17] Various studies show inconsistent relationships, either between relationships or differences. Nor in terms of mode of delivery.

This is congruent with the findings of Danielson, *et al*[20] who likewise discoveredan incidence risk ratio of 9.3 between the younger and older age groups. Postpartum dyspareunia is most common in women who are less than twenty years old. According toour findings, there was no discernible difference between the preexisting dyspareunia andthe subsequent development of postpartum dyspareunia. Barrett *et al*.[21] found that having previous experience with the disease was substantially related with dyspareunia in the first three months following birth.

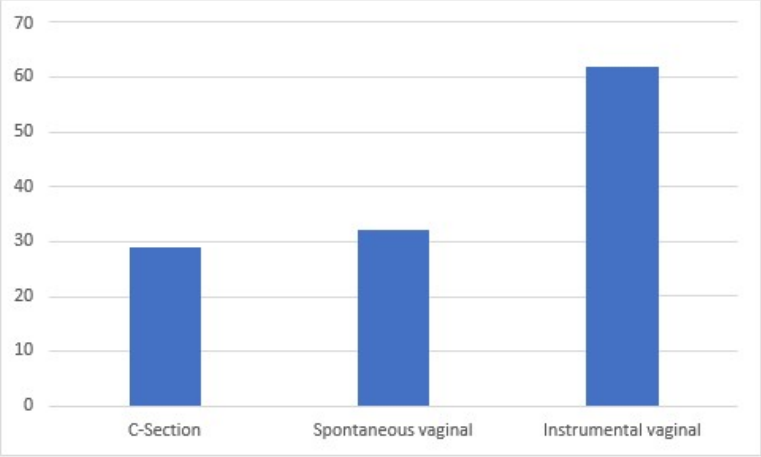

Figure 2. Comparison of delivery mode and dyspareunia

This was documented in their study. The results of the study indicated that there was a higher incidence of postpartum dyspareunia in women who had undergone surgicalvaginal delivery immediately after having undergone normal vaginal birth. According tothe findings of our research, there is a statistically significant link between the method ofdelivery and postpartum dyspareunia ($p < 0.001$). This conclusion is consistent with the findings of Barrett *et al*.,[21] however the findings of Dabiri *et al*.[15] indicated that there was no significant connection between the manner of delivery and postpartum dyspareunia.

Alligood *et al* (2016)[11] showed risk factors for dyspareunia, such as instrumental delivery and breastfeeding, providing evidence to support the measure's validity. The factthat we employed a 1-item assessment of dyspareunia is a drawback of this study. Somestudies of postpartum dyspareunia use many measures to assess a variety of characteristics such as vaginal dryness, lack of desire, and sexual pleasure. Varied risk factors are likely to cause different patterns of dyspareunia-related symptoms.[18,22]

A better understanding of specific symptoms would have aided our research design by allowing the investigators to associate specific symptoms with specific risk variables.[18,22] Women who had spontaneous vaginal birth were considerably less likely to have dyspareunia at 6 months postpartum than women who had instrumented vaginal delivery (adjusted OR 0.67, 95% CI 0.48-0.94). There was no statistically significant difference in dysparuena rates between women who delivered vaginally and those who had a cesarean surgery (either planned or unplanned).[11]

Caesarean section as a protective factor for dyspareunia and sexual dysfunction has not been extensively investigated and is controversial. These women also reported a worse QOL 6 months postpartum compared with women who had had a vaginal delivery.This can probably be seen as a long-term effect of surgery. Kabakian-Khasholian, *et al.*[14]investigated postpartum pelvic pain in 238 Lebanese women, and found that women whounderwent a caesarean section were more likely to experience pain during intercourse between 6 weeks and 6 months after delivery (aOR = 1.96; 95% CI = 1.29-2.63).

The underlying cause of the pain is an important consideration in terms of the outlook for dyspareunia. A more favorable prognosis can be expected if the underlying cause can be identified and treated. Idiopathic dyspareunia has a dismal outlook due to this condition's prognosis. Patients diagnosed with dyspareunia should, once their condition has been treated, receive counseling on the disorder's prognosis.[8,23]

The treatment may take several months, and there is no assurance that the condition will completely clear up. According to the findings of several studies, the beginning of visible benefits often takes at least three months. After then, the patient's distress begins to lessen, which is accompanied by an improvement in their quality of life.When looking for the best possible outcomes, a follow-up after 24 months is advised.[8,23]

CONCLUSION

Various studies show inconsistent relationships, either between relationships or differences. Nor in terms of mode of delivery. Although our paper shows that assisted/instrument vaginal delivery causes the most dyspareunia.

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