

The Impact of Perineal Massage on Perineal Rupture Degrees in Primigravida Mothers : A Literature Review

Cindy Amilea Koestiono¹, Eigthy Mardiyani Kurniawati², Gadis Meinar Sari^{3*}

¹Medical Program, Faculty of Medicine, Universitas Airlangga, Surabaya, Indonesia
cindy.amilea.koestiono-2020@fk.unair.ac.id

²Department of Obstetrics and Gynecology, Medical Program, Faculty of Medicine, Universitas Airlangga, Surabaya, Indonesia
eighty-m-k@fk.unair.ac.id

³Department of Physiology and Biochemistry, Medical Program, Faculty of Medicine, Universitas Airlangga, Surabaya, Indonesia
gadis-m-s@fk.unair.ac.id

Abstract

Introduction : Pregnancy and childbirth are physiological phenomena experienced by women. Pregnant women undergoing vaginal birth tend to experience trauma in the birth canal, especially primigravida mothers. Perineal rupture occurs up to 9 in 10 primigravida who have a vaginal birth. Primigravida woman has a higher risk of having perineal rupture. For that reason, preventive efforts are needed to reduce the incidence and severity of perineal rupture during vaginal birth. One of the preventive methods which can be done at home by pregnant mothers is perineal massage. Perineal massage is a massage technique around perineal area to enhance perineal muscle elasticity. Therefore, we need the literature that analyze the impact of perineal massage on perineal rupture degree in primigravida mothers.

Objective : This literature review aims to analyze the impact of perineal massage on perineal rupture degree in primigravida mothers.

Method : A literature review was conducted through PubMed, Science Direct, Google Scholar databases, searching for studies related to perineal massage and perineal rupture, especially in primigravida mothers. Grey articles are also included as literature source to enhance the analysis.

Result : According to the review, perineal massage enhanced the perineal muscle elasticity that it lowered the severity of perineal rupture, especially for primigravida mothers. Perineal massage which was done since 35 weeks of pregnancy until the delivery could reduce the risk of perineal rupture during vaginal birth. Most of the findings have shown that perineal rupture degree in primigravida mothers with perineal massage is lower than the ones without perineal massage.

Conclusion : The review find a significant impact of perineal massage on perineal rupture degrees in primigravida mothers. Perineal rupture degrees in primigravida mothers who practiced perineal massage are lower than the ones who did not. Perineal massage as prenatal care was a feasible and effective intervention for reducing perineal trauma during vaginal birth. Primary healthcare and obstetric care providers should consider individualized approaches to educate pregnant mothers about the benefits of perineal massage, especially for primigravida mothers.

Keywords: perineal massage, perineal rupture, primigravida

1. Introduction

Pregnancy and childbirth are physiological phenomena experienced by women. Pregnant women undergoing vaginal delivery tend to experience trauma in the birth canal.⁶ About 9 out of 10 primigravida mothers undergoing vaginal delivery will experience some form of tearing, abrasion, or episiotomy.¹⁵ Perineal tears are common in primigravida mothers due to the rigidity of the birth canal muscles. However, multigravida mothers still have the possibility of experiencing perineal tears.⁴

Perineal tears pose a risk of complications for mothers post-delivery due to infection in the ruptured perineal stitches that may spread to the bladder and vagina. Additionally, severe tears have the potential to cause continuous bleeding, leading to weakness due to blood loss.²¹ Postpartum bleeding is mostly caused by perineal tears after uterine atony, commonly found in primigravida mothers.¹⁴

For that reason, preventive efforts are needed to reduce the incidence and severity of perineal rupture, especially in primigravida mothers. One of the preventive methods which can be done at home by pregnant mothers is perineal massage. Perineal massage is a massage technique around perineal area to enhance perineal muscle elasticity.¹³ The aim of this literature review is to analyze the impact of perineal massage on perineal rupture degree in primigravida mothers.

2. Method

The literature exploration was performed using PubMed, Science Direct, and Google Scholars. The related keywords were used including "perineal rupture", "perineal massage", and "primigravida". Grey articles are also included to enhance the analysis. Exclusion criteria to filter the result were set as: (1) access to paid articles (2) language other than English or Indonesian.

3. Result and Discussion

No	Author	Research Title	Country	Method
1	Ahmed Mohamed Abdelhakim	Antenatal perineal massage benefits in reducing perineal trauma and postpartum morbidities: a systematic review and meta-analysis of randomized controlled trials	Egypt	Systematic review and meta-analysis
2	Triana Indrayani	The Effect of Perineal Massage on Perineal Tear Case on Primigravida Pregnant Mothers In Their Third Trimester In Public Health Center Care of Morokay 2018	Indonesia	Quasi experimental design
3	Yetti Anggraini	Hubungan Pijat Perineum dengan Robekan Jalan Lahir pada Ibu Bersalin Primipara di BPM Kecamatan Metro Selatan Kota Metro	Indonesia	Quasi experimental design
4	Fritria Dwi Anggraini	Pengaruh Pijat Perineum Pada Kehamilan Trimester III Terhadap Robekan Perineum Primigravida Di Puskesmas Jagir Surabaya	Indonesia	Quasi experimental design

5	Dewi Suri Damayanti	Hubungan Perineum Massage, Paritas, dan Berat Badan Bayi Baru Lahir dengan Kejadian Rupture Perineum	Indonesia	Cross sectional study
6	Lina Siti Nuryawati	Pengaruh Pijat Perineum Terhadap Derajat Robekan Perineum Pada Ibu Hamil Primigravida > 34 Minggu di Wilayah Kerja UPTD Puskesmas DTP Maja Tahun 2019	Indonesia	Pra-experimental design

3.1 Perineal rupture

Perineal rupture refers to tears in the birth canal that occur during vaginal delivery, whether spontaneously or iatrogenic (as a result of episiotomy or assisted delivery).⁹ This type of tear is common in most primigravida mothers due to the rigidity of the perineal muscles. Perineal trauma can occur in both the anterior and posterior parts of the perineum. Anterior trauma affects the anterior wall of the vagina, urethra, clitoris, and labia. Posterior trauma affects the posterior wall of the vagina, the body of the perineum (including perineal muscles), external and internal anal sphincters, and the anal canal. During delivery, perineal tears are most commonly found in the posterior wall of the vagina extending to the anus.⁹

Perineal tears occur when there is spontaneous laceration in the vagina or perineum during delivery and/or as a result of episiotomy performed during shoulder dystocia, breech birth, vacuum or forceps use, and fetal distress.⁵ Based on the severity level, perineal tears are classified into degrees I, II, III, and IV. According to the Royal College of Obstetricians and Gynecologists, first and second degree perineal tears are the most commonly occurring types and rarely lead to long-term complications.¹⁹ On the other hand, third and fourth degree perineal tears included as sphincter ani injuries or what is known as Obstetric Anal Sphincter Injuries (OASI).¹³

3.2 Risk factors of perineal rupture

Maternal age plays a role in the incidence of perineal tears during childbirth. Primigravida mothers below 20 years and above 35 years of age are reported to have a higher risk of perineal tears compared to those in the non-risk maternal age category of 20-35 years.^{7,13} This is attributed to the incomplete development of reproductive organs in mothers below 20 years and a decline in reproductive organ function in mothers above 35 years.¹⁰

The occurrence of perineal tears can be influenced by several factors other than maternal factors (maternal age, pushing technique, parity, and perineal elasticity), such as fetal factors (baby's birth weight) and delivery assistant factors.¹³ According to information from the Ministry of Health Indonesia, normal birth weight for newborns (neonates) is between 2500-4000 grams. Baby's birth weight is related to the occurrence of perineal tears,⁴ which is aligned with Anggraini's research that found a connection between baby's birth weight and perineal tears in vaginal deliveries. However, baby's birth weight is not the sole risk factor for perineal tears, as other factors such as maternal age and parity also play a role.²

Younger maternal age, lower parity, and larger baby's birth weight are associated with the degree of perineal tears in bivariate analysis.¹¹ In multivariate analysis, it was found that baby's birth weight is a factor with a greater influence on the degree of perineal tears. Increasing baby's birth weight results in a more stretched perineum, making it thinner and more prone to tearing.¹¹

Another factor that can affect the degree of perineal tears is the pushing technique related to the delivery assistant factor. Perineal tears can be prevented if the crowning process, or the baby's head emerging, is done slowly and gradually. Delivery assistant plays a role in preventing sudden crowning, which can cause irregular tears and potentially lead to OASI.¹³

3.3 Perineal massage

Perineal massage is a massaging technique in the perineal area that can be done independently by pregnant women (self-perineal massage), with the assistance of a partner, and/or with the help of a professional. The massage is performed in a semi-sitting position, using the thumb or index finger to massage the perineal area in a semi-circular motion.¹⁶ Perineal massage has several benefits, such as improving blood circulation, increasing perineal muscle elasticity, and relaxing pelvic floor muscles.²²

Here are more specified explanation of perineal massage benefits:¹⁵

- a. **Improves blood circulation and hormone flow** : perineal massage enhances blood circulation and hormonal flow in the vagina and perineum. This helps relax pelvic floor muscles, making the childbirth process smoother and accelerating postpartum recovery of the birth canal.
- b. **Aids relaxation during vaginal examinations** : the practice assists pregnant women in achieving a greater state of relaxation during vaginal examinations.
- c. **Prepares mothers psychological condition** : perineal massage prepares the psychological condition of the mother for the stretching and pressure that will be experienced when the baby's head is about to emerge.
- d. **Reduces the risk of perineal tears and/or episiotomy** : by increasing the elasticity of perineal muscles, perineal massage decreases the risk of perineal tears and/or episiotomy occurrences.

3.4 Impact of perineal massage on perineal rupture degrees

The occurrence of perineal tears can be prevented if the perineal muscles of the mother are sufficiently elastic or if the mother can push effectively during delivery. There are several ways to increase perineal elasticity, such as perineal massage, Kegel exercises, and warm compresses.¹³ Perineal massage performed from the 35th week of pregnancy effective in reducing the prevalence of perineal tears during vaginal delivery. According to the Ministry of Health Indonesia, perineal massage has the potential to increase perineal elasticity, making it easier to stretch and reducing the risk of birth canal tears and pain during delivery.⁴

Primigravida mothers who practiced perineal massage had lower degrees of perineal tears compared to those who did not.³ There is a difference in the proportion of perineal rupture occurrences between mothers who undergo perineal massage and those who do not undergo perineal massage (there is a significant relationship between perineal massage and perineal rupture. Mothers who did not practice perineal massage have a 4.67 times higher risk of experiencing perineal rupture.⁸

Primigravida mothers who practiced perineal massage experiencing minimal tears during childbirth and avoiding Obstetric Anal Sphincter Injury (OASI). Perineal massage during antenatal care is associated with a lower risk of OASI and postpartum complications.¹ Perineal massage is particularly beneficial for primigravida mothers who has a higher risk of OASI, with a prevalence of 6% in primigravida childbirth.¹⁸

4. Conclusion

In conclusion, there is a significant impact of perineal massage on perineal rupture degrees in primigravida mothers. Perineal rupture degrees in primigravida mothers who practiced perineal massage are lower than the ones who did not. Perineal massage has potential benefits in reducing the incidence and severity of perineal tears during vaginal birth. Therefore, perineal massage as prenatal care was a feasible and effective intervention for reducing perineal trauma during vaginal birth. Primary healthcare and obstetric care providers should consider individualized approaches to educate pregnant mothers about the benefits of perineal massage, especially for primigravida mothers.

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