

## Effect of perineal massage and gentle techniques on perineal rupture in primigravida maternity mothers

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### ABSTRACT

**Background:** Perineal rupture is a tear that occurs when a baby is born, either spontaneously or by using tools/actions. Preventive efforts can be made to reduce the risk of perineal rupture by massaging the perineum and using good pressure techniques during labor.

**Objective:** To determine the effect of perineal massage techniques and pressure on perineal rupture in primigravida mothers who give birth.

**Method:** This research uses experimental research methods; this type of research is quantitative with a pretest-posttest research design with a control group and an analytical study design with a retrospective approach. The total research sample required was 30 primigravidas, with details, namely 15 people from the perineal massage group and 15 from the gentle technique. Sampling was taken using an accidental sampling technique, where subjects were selected as research samples based on cases/respondents who happened to be available in a place according to the context.

**Results:** research results of primigravid mothers who experienced perineal rupture in the perineal massage group were two people (20%), and in the menstrual technique group, there were eight people (80%), based on the results of data analysis using the Wilcoxon test, the p-value was obtained. In the perineal massage group, it was 0.000; in the gentle technique group, it was 0.005.

**Conclusion:** It can be concluded that perineal massage is more effective than gentle techniques in preventing perineal rupture in primigravida mothers. To ensure the effectiveness of the chosen method, it is advisable to consult with medical personnel experienced in this field and follow the recommendations and protocols approved by the relevant health authorities. In addition, careful monitoring and care during labor is also essential to minimize the risk of perineal rupture.

**Keywords:** gentle technique, massage, perineal rupture



## INTRODUCTION

Pregnancy and childbirth are processes that are very vulnerable to complications that can harm both mother and baby. Although labor is a physiological process, there is a risk of perineal trauma when the baby's head emerges from the birth canal. Perineal trauma refers to damage to the genital tract during spontaneous delivery or due to episiotomy. Perineal injuries occur in 85% of vaginal deliveries, of which more than two-thirds require repair (Lumy, Solang and Mongkau, [2022](#)). According to the World Health Organization (WHO), in 2020, there were 2.7 million cases of perineal rupture in women giving birth; it is estimated that it will reach 6.3 million in 2050. In Asia, perineal rupture in women giving birth is 50% of the incidence of perineal rupture in the world. Data from the Ministry of Health states that the incidence of perineal rupture in Indonesia is experienced by 75% of mothers giving birth vaginally (Sudianti, Ibrahim and Yusuf, [2023](#)). In the medical records of the UPTD of the Ciranjang Inpatient Health Center in 2022, 207 births were recorded, of which 43 births were primiparous, with the incident perineal rupture reaching 90.6% (39 deliveries), and 9.4% did not experience perineal rupture (4 deliveries). (UPTD Ciranjang Inpatient Health Center, 2022). In 2023, data from January – September, the number of births was 198 births, of which 54 births were primiparous, with the incidence of perineal rupture reaching 88.8% (48 deliveries) and 11.2% of non-perineal ruptures (6 deliveries) (UPTD Health Center Rawat Ciranjang Stay, 2023).

Rupture perineum almost occurs in every case of first birth, known as primipara, and cannot infrequently occur in subsequent births (mulltipara). In primiparas, the perineum is still until the perineum ruptures more often (Papoutsis et al., [2021](#)). The perineum in primipara musculus parity, which develops the pelvic floor muscles, has not yet experienced relaxation or can be considered stiff, so there is a higher risk of perineum rupture (Sabrina Dwi Prihartini et al., [2023](#)). One of the effective measures to prevent the occurrence of perineum rupture is to protect the perineum in the second stage of labor when the baby's head forms the vulva (diameter 5-6 cm), namely when the diameter embosses the vulva by using the palm of the helping hand. The aim of protecting the perineum is the aim of preventing excess abuse (JNPK-KR, 2014). Protecting the perineum must be done correctly; placing the helping hand and removing it is incorrect because melting it will stress it and block the rescuer's view (Borzykh, Lavrenko, and Khlistun, [2022](#)). Preventive measures that can be carried out to reduce the risk of perineum pregnancy include perineum massage (Ratih, Yusmaharani, and Nurmaliza, [2021](#)) and implementing good birth control techniques at the time of delivery (Sari, Listiarini, and APP, [2022](#)).

Make sure your mother's stomach rolls when the internal examination is carried out and prepare perineum tissue to face the situation during the birth process, especially when the baby's head is crowning so that the perineum is more relaxed (Siti Amalia and Ninsah Mandala Putri Sembiring, [2023](#)). Perineum massage is one of the ultimate ways to improve health, blood flow, elasticity, and relaxation of the pelvic floor muscles (Quaghebeur *et al.*, [2021](#)). This technique occurs at the end of pregnancy (from the first week to 34 weeks). Perineum massage will help you recognize and get used to it by relaxing the perineum tissue, which is the part that the baby will pass through (Karlinah, [2021](#)). Research published in the American Journal of Obstetrician and Gynecology concluded that perineum massage during pregnancy can protect perineum function for at least three months after giving birth. The Cochrane Review recommends that this perineum massage should always be explained to pregnant women so they know its benefits; it is very safe and not dangerous (Tefera *et al.*, [2020](#)).

A good delivery technique includes extending the breast to allow the breast to pass through with its natural impulse during the contraction, not extending the breast to hold the breath during delivery, extending the breast to lie on one side or mid-sleeve, and pulling the breast towards the mother's breast and extending the chin (Huggins, [2022](#)). Chest pain when swallowing, extending the mother's breasts, and not lifting the buttocks when giving birth (Hatcher-Moore, [2021](#)). The torn birth canal is the leading cause of postpartum hemorrhage, which occurs in almost every

vaginal delivery; tearing of the birth canal includes perineum rupture, which is caused by the perineum being rigid and unable to expel correctly. The high incidence of rupture perineum results in increased rates of pain in the mother during and after the delivery process. This study aimed to determine the effect of perineum massage and melting technique on perineum rupture in primigravida mothers.

## MATERIALS AND METHODS

The research method is quasi-experimental, and the type of research is quantitative, with a pretest-posttest research design with group control and an analytical study design using analytical research approaches. The research population was the number of primigravida deliveries at UPTD of the Ciranjang Inpatient Health Center in January – September 2023, namely 54 people. The total sample was 30 primigravidas, with details of 15 people each from the Perineum massage group (experimental group) and 15 people from the gentle technique group (control group) with a sampling technique using non-probability sampling, accidental sampling technique, where subjek was chosen as the research sample based on cases or respondents who happen to be there. This research was conducted from December 2023 to January 2024; data collection using job sheets and observation sheets was then tested using Wilcoxon analysis.

### Result

**Table 1. Characteristics of Research Subjects Based on Age, Education, and Occupation  
n=30**

Characteristics	Perineum Massage		Gentle Technique	
	amount	presentation	Amount	presentation
<b>Age</b>				
<20 years	4	26,7 %	7	46,7%
20-35 years	11	73,3%	8	53,3 %
Amount	15	100%	15	100%
<b>Education</b>				
Elementary School	4	26,7%	5	33,3%
Junior High School	7	46,7%	4	26,7%
Senior High School	3	20%	4	26,7%
College	1	6,6%	2	13,3%
Amount	15	100%	15	100%
<b>Occupation</b>				
Housewife	8	53,3%	9	60%
Laborer	2	13,3%	1	6,6%
Swasta	4	26,7%	4	26,7%
Teacher	1	6,6%	1	6,6%
Amount	15	100%	15	100%

Frequency distribution of respondents based on the age of respondents with ages 20-35 years dominating, namely 11 people (73.3%) in the perineal massage group and eight people (53.3%) in the gentle technique group, based on education respondents with junior high school education dominate in the massage group perineum, namely seven people (46.7%) and elementary school education in the gentle technique group, namely five people (33.3%), based on work dominated by housewives, namely 8 people (53.3%) in the perineal massage group and 9 people (60 %) in the gentle technique group.

**Table 2. Frequency Distribution of Perineal Rupture Based on Age, Education, and Occupation n=30**

Characteristics	Perineum Massage		Gentle Technique	
	Rupture	Not Rupture	Rupture	Not Rupture
<b>Age</b>				
<20 years	1 (50%)	3 (23,1%)	6 (75%)	1 (14,2%)
20-35 years	1 (50%)	10 (76,9%)	2 (25%)	6 (85,8%)
Amount	2 (100%)	13(100%)	8 (100%)	7 (100%)
<b>Education</b>				
Elementary School	1 (50%)	3 (23,1%)	5 (62,5%)	0 (0%)
Junior High School	0 (0%)	7 (53,9%)	1 (12,5%)	3 (42,8%)
Senior High School	1 (50%)	2 (15,4%)	2 (25%)	2 (28,6%)
College	0 (0%)	1 (7,6%)	0 (0%)	2 (28,6%)
Amount	2 (100%)	13(100%)	8 (100%)	7 (100%)
<b>Occupation</b>				
Housewife	1 (50%)	7 (53,9%)	6 (75%)	3 (42,9%)
Laborer	1 (50%)	0 (0%)	0 (0%)	1 (14,3%)
Swasta	0 (0%)	5 (38,9%)	2 (25%)	2 (28,5%)
Teacher	0 (0%)	1 (7,6%)	0 (0%)	1 (14,3%)
Amount	2 (100%)	13(100%)	8 (100%)	7 (100%)

The results of the distribution of perineum rupture birth frequency based on age was dominated by birth mothers with age < 20 years in the perineum massage group, namely 1 person (50%), and the gentle technique group, namely 6 people (75%). Based on education, it is dominated by birth mothers with elementary school education in the Perineum massage group, 1 person (50%), and the Gentle technology group, 5 people (62.5%). Based on the work, the majority of those who experienced perineum rupture were domestic workers, both in the perineum massage group, with a total of 1 person (50%), and the technical group, with a total of 6 people (75%).

**Table 3. Expansion of Perineum Massage Treatment and Gentle Techniques on the Occurrence of Perineum Rupture in Primigravida Maternity Mothers at UPTD of the Ciranjang Inpatient Health Center**

Group	Rupture Perineum				<i>p-value</i>
	Yes		Not		
Gentle Techniques	8	80%	7	35%	0,005
Perineum Massage	2	20%	13	65%	0,000
Amount	10	100%	20	100%	

Table 3 shows the results of the Wilcoxon test to identify the differences between the massage group and the gentle technique group. The p-value in the perineum massage group is 0.000, meaning the p-value is <0.05, so perineum massage influences the incidence of perineum rupture. In the technical group, the p-value was 0.005 cells, so the gentle technique influenced the incidence of perineum rupture. If we look at the results of the Wilcoxon test carried out in the perineum massage group and the gentle technique, both have not impacted the occurrence of

perineum rupture. However, from the results, it is generally found that the p-value in perineum massage is smaller than the p-value in the gentle technique, so it can be concluded that there is a difference in influence between the perineum massage group and the gentle technique group.

## DISCUSSION

Researchers revealed a difference in influence between the perineal massage group and the gentle technique group. Both care groups have unique benefits depending on individual needs, labor conditions, and desired treatment goals. It is essential to consult with qualified medical personnel or therapists to select the treatment that best suits the situation and needs. The effectiveness of each method depends on individual needs and conditions. For example, in preparation for routine labor, perineal massage may be preferred, while gentle techniques may be a more suitable option to relieve pain or tension. Consult an experienced medical professional or therapist to choose the best method (Howard and Khalifeh, [2020](#)). These differences highlight the multifaceted benefits of perineal massage and gentle techniques in perineal care. The choice between the two approaches often depends on individual preferences, comfort levels, and healthcare provider recommendations (Brooks, Weston, and Greenberg, [2020](#)). Pregnant individuals must discuss these options with their healthcare providers to make informed decisions based on their unique needs and circumstances (Murugesu *et al.*, [2021](#)).

The rupture perineum is a tear that occurs during the birthing process, can occur due to the impact of equipment/actions, and can occur spontaneously (Jansson *et al.*, [2020](#)). Rupture perineum or torn perineum often occurs in almost all first births and sometimes also in later births (Subroto and Sangkala, [2022](#)). In mothers with one parity or primiparous mothers, there is a greater risk of developing rupture perineum than in mothers with parity greater than one. The baby's head has not yet passed the birth canal until the perineum muscles are stretched (Yanti, [2023](#)). The ultimate effort to increase the elasticity of the perineum is made by practicing a perineal massage a few weeks before delivery. In the classification of maternal age during pregnancy in the range of 20-35, 21 people responded 11 in the perineal massage group and 10 in the gentle technique group. This ulcer range is ideal or often referred to as the golden period of pregnancy because the reproductive organs are mature and better prepared for pregnancy and childbirth (Chaponda *et al.*, [2021](#)). Both groups significantly influenced perineal treatment but with slightly different focus and results. Perineal massage emphasizes preparing and reducing the risk of perineal tearing, while gentle techniques are more focused on relieving tension and pain. These two groups' choices depend on individual needs, preferences, and specific health conditions (Renn, [2020](#)).

The perineal massage group's primary purpose is to increase the elasticity of perineal tissue, reduce the risk of perineal tearing during labor, and speed up postpartum recovery. Benefits include increased comfort during labor, reduced discomfort, and preparing tissues for faster regeneration (Hartinah *et al.*, [2021](#)). This gentle technique group focuses more on relieving tension and pain in the perineal area. Benefits include reduced muscle tension, relaxation of the mind, and improved blood flow to the regions involved, which can help minimize discomfort during pregnancy and childbirth (Dieb *et al.*, [2020](#)). The choice between the two groups depends on individual preferences, physical condition, health, and input from the medical personnel or therapists providing the treatment (Clancy, Povey, and Rodham, [2020](#)). Some women may feel more comfortable with gentle techniques because they experience significant strain or have a history of perineal trauma.

In contrast, others may benefit more from perineal massage to prepare for standard delivery. Combining these two treatment groups can provide optimal benefits, with perineal massage used in preparation for labor and postpartum recovery. In contrast, gentle techniques relieve tension and pain during pregnancy and delivery (Thakar and Sultan, [2024](#)).

Based on the results of this research, perineum massage is more effective when compared with the gentle technique in reducing the incidence of perineum rupture in primigravida pregnant

women. Therefore, it would be good for this perineum massage to be disseminated to primigravida pregnant mothers in the work area UPTD Puskesmas Inpatient Ciranjang as long as possible as a preventive measure to minimize the incidence of rupture perineum.

## CONCLUSIONS

It can be concluded that there is an influence between perineal massage and gentle techniques on the incidence of perineal rupture in women giving birth, and perineal massage is more influential than gentle techniques in preventing perineal rupture. Pregnant and postpartum mothers are also expected to know how to practice perineum massage and correct gentle methods in preparing for the birthing process; with the practice of perineum massage during pregnancy and gentle technique during the birthing process, it is hoped that this can minimize the incidence of perineum rupture.

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## Conflict of Interest

None declared

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