



## **Perineum massage as the implementation of non-pharmacological method in pregnant women trimester III in efforts to prevent tearing perineum at Toroh Public Health Center I**

PintamAyu Yastirin<sup>1\*</sup>, Sehmawati Sehmawati<sup>1</sup>

<sup>1</sup>Departement of of Science and Health, University An Nuur  
Majenang, Kuripan, Kec. Purwodadi, Kabupaten Grobogan, Jawa Tengah

\*Corresponding author : [bidanpintam@gmail.com](mailto:bidanpintam@gmail.com)

### **ABSTRAK**

**Latar Belakang :** Kejadian kematian ibu di Jawa Tengah sebanyak 64,18% terjadi pada masa nifas, 25,72% pada masa kehamilan dan 10,10% pada masa persalinan. Dari 35 kabupaten/kota di Jawa Tengah, Kabupaten Grobogan tercatat sebagai salah satu Kabupaten dengan AKI terbanyak pada tahun 2019 yaitu sebesar 36 kasus. Kegawatdaruratan dapat terjadi pada masa nifas yang seringkali disebabkan karena perdarahan, infeksi dan pre eklamsia. kasus perdarahan pada masa nifas disebabkan karena faktor risiko utama seperti atonia uteri (70 %), laserasi jalan lahir (20 %), retensio placenta (10 – 20 %) dan koagulopati (1 %). Perdarahan post partum akibat robekan perineum dapat diminimalisasikan dengan meningkatkan kualitas pelayanan baik secara promotif, preventif, kuratif maupun rehabilitatif. Salah satu metode pencegahan robekan perineum dapat dilakukan sejak masa kehamilan dengan melakukan pijat perineum (perineal massage).

**Tujuan :** mengetahui efektivitas pijat perineum pada ibu hamil trimester III sebagai metode non farmakologi dalam pencegahan robekan perineum di Puskesmas Toroh I.

**Metode :** penelitian menggunakan rancangan pra eksperimen model static group comparison. Teknik pengambilan sampel menggunakan teknik purposive sampling sebanyak 48 ibu hamil. Analisa data menggunakan uji Fisher Exact Probability.

**Hasil :** berdasarkan hasil penelitian analisa univariat 50 % responden melakukan pijat perineum, 58 % responden tidak mengalami ruptur perineum sedangkan analisa bivariat variabel pijat perineum dan variabel ruptur perineum menunjukkan p-value < 0,05 dengan OR :18,142 pada tingkat kepercayaan 95%.

**Kesimpulan :** terdapat pengaruh yang bermakna antara pijat perineum terhadap kejadian ruptur perineum di Puskesmas Toroh I.

**KATA KUNCI :** pijat perineum; non farmakologi; ibu hamil trimester III; robekan perineum

### **ABSTRACT**

**Background :** Incidence of maternal mortality in Central Java is 64.18% during the puerperium, 25.72% during pregnancy and 10.10% during childbirth. Of the 35 districts / cities in Central Java, Grobogan Regency was recorded as one of the districts with the most MMR (AKI) in 2019, amounting to 36 cases. Emergencies can occur during the puerperium which are often caused by bleeding, infection and pre-eclampsia. cases of bleeding during the puerperium are caused by major risk factors such as uterine atony (70%), lacerations of the birth canal (20%), retained placenta (10 - 20%) and coagulopathy (1%).hemorrhage Post partum due to perineal tearing can be minimized by improving the quality of service both promotive, preventive, curative and rehabilitative. One method of preventing perineal tearing can be done since pregnancy by performing perineal massage.

**Objectives** : The purpose of this study was to determine the effectiveness of perineal massage in third trimester pregnant women as a non-pharmacological method in preventing perineal tears at Toroh I Health Center.

**Methods** : The study used a pre-experimental design with a model static group comparison, with a sample selected using a purposive sampling technique of 48 pregnant women. The research data used is in the form of primary data and secondary data. The research was analyzed using univariate and bivariate analysis using the test Fisher Exact Probability.

**Results** : The results of the research were univariate analysis of 50% of respondents doing perineal massage, 58% of respondents did not experience perineal rupture, while the bivariate analysis of perineal massage variables and perineal rupture variables showed  $p$ -value  $<0.05$  with OR: 18.142 at the 95% confidence level.

**Conclusions** : There is a significant effect between perineal massage on the incidence of perineal rupture at Toroh Public Health Center I.

**KEYWORD** : perineal massage; non pharmacological; pregnant women trimester III; perineal tearing

Article Info:

Article submitted on February 25, 2021

Article revised on April 27, 2021

Article received on June 15, 2021

DOI: [http://dx.doi.org/10.21927/jnki.2021.9\(2\).111-118](http://dx.doi.org/10.21927/jnki.2021.9(2).111-118)

---

## INTRODUCTION

The mission of the national medium-term development is the development of Human Resources (HR). The direction of human resource development policies in the health sector includes ensuring the health of pregnant women, infant health, toddler health, school age children health and reducing stunting, maternal mortality and infant mortality. The focus of implementation in improving maternal and child health aims to reduce maternal and infant mortality and improve reproductive health. Nationally, the target to reduce the Maternal Mortality Rate (MMR) in 2024 is 183 / 100,000 live births. The results of the national evaluation show that the MMR trend has decreased in the period 1991 - 2015 from 390 / 100,000 live births to 305 / 100,000 KH (1)(2).

Based on data from each province in Indonesia for the period 2018 - 2019, it can be seen that a decrease in the number of maternal deaths from 4226 cases to 4221 cases. The majority of causes of maternal death nationally are due to bleeding (1280 cases), hypertension in pregnancy (1066 cases), infection (207 cases), circulatory

system disorders (200 cases), metabolic disorders (157 cases) and other causes (1311 cases). Meanwhile, based on provincial data, the MMR at the end of 2019 was recorded at 76.9 / 100,000 live births. This number tends to decline from the previous year 78.6 / 100,000 KH (2018) and 88.05 / 100,000 Live birth (2017). Of the 35 districts / cities in Central Java, Grobogan Regency was recorded as one of the districts with the most MMR in 2019, namely 36 cases after Brebes Regency (2)(3).

The incidence of maternal mortality in Central Java was 64.18% during childbirth, 25.72% during pregnancy and 10.10% during childbirth. The postpartum period is a critical period for a mother, because this period is a period of restoring the mother's health, both physically and psychologically. Emergencies can occur during the puerperium which are often caused by bleeding, infection and pre-eclampsia. Based on the results of a preliminary study, in 2018 at the Toroh I Public Health Center, out of 863 maternal births, 659 people experienced perineal rupture including 414 grade 2 perineal rupture and the rest experienced grade 1 perineal rupture. integrated christmas

care (ANC) and classes for pregnant women. In the class of pregnant women, midwives provide education about efforts to maintain the health of pregnancy, including education on perineal massage (3)(4).

The results of a study conducted, cases of bleeding during the puerperium are caused by major risk factors such as uterine atony (70%), birth canal lacerations (20%), retained placenta (10-20%) and coagulopathy (1%). Meanwhile, other risk factors that have the potential for bleeding during the puerperium include prolonged stage III, multi gravida, episiotomy, fetal macrosomia, history of hemorrhage *post-partum* and spontaneous twin delivery. Hemorrhage is *Post partum* estimated to be 24% as a contributor to maternal mortality in developing countries. Handling practices that are still below standard are a contributor to maternal mortality (5).

Birth canal laceration contributes to 20% of bleeding cases and is one of the main risk factors for hemorrhage *post partum*. Birth canal lacerations are identified as soon as the placenta is delivered. The lacerations that are often experienced by mothers during childbirth are perineal lacerations / perineal tears, where the tear occurs spontaneously and forms a parallelogram-shaped wound in the area below the pelvic floor. The perineum is anatomically an external reproductive organ that is located between the urethral and anal meatus, including the skin and muscles underneath it. The laceration of the birth canal can be fatal if the artery is torn, so the amount of bleeding becomes very large. The long-term impact of *perineal rupture* can affect the physical, psychological and mother's social health (5)(6).

Post partum hemorrhage due to perineal tearing can be minimized by improving the quality of service both promotive, preventive, curative and rehabilitative. One method of preventing perineal tearing can be done from the time of pregnancy by performing perineal massage (perineal massage).

Perineal massage is effective for primigravidas if done regularly. Pregnant women who do perineal massage will get benefits, including reducing the risk of suturing trauma, episiotomy and pain during the puerperium, the duration of Kala I and Kala II labor can take place faster (Aprilia, 2010). The purpose of this study was to determine the effectiveness of perineal massage in third trimester pregnant women as a non-pharmacological method in preventing perineal tearing (7)(8–10) Turkey, between January 1, 2010, and May 31, 2011. Healthy pregnant women presenting for their first or second delivery at 37-42 weeks of pregnancy were enrolled during the first stage of labor. Participants were randomly assigned (1:1).

## MATERIALS AND METHODS

The study was conducted in June - December 2020 at the Toroh I Health Center. The design used in the study used a pre-experimental design with a static group comparison model, with a population of all Trimester III pregnant women (28 - 42 weeks) who recorded ANC visits at Toroh I Health Center 55 pregnant women. The sample used was selected using a purposive sampling technique with restrictions on the inclusion criteria of pregnant women with gestational age 35 - 42 weeks, did not experience external genitalia infection and were willing to be research respondents, a total of 48 pregnant women. The research data used in the form of primary data which is the result of observations and physical examinations as well as secondary data derived from partograph records and the Toroh Puskesmas cohort. The results of the study were processed quantitatively using univariate and bivariate analysis using the Fisher Exact Probability test.

The research implementation began with the respondent's consent (informed consent), then the researcher provided perineal massage training to the respondents by involving their husbands. Respondents then performed independent perineal massage with the help of their husbands 5 times a

week for 5 - 10 minutes until before delivery. The researcher observed and examined the perineum every 2 (two) weeks / during the ANC visit, then the researcher identified the incidence of perineal rupture through partograph notes.

## RESULTS AND DISCUSSION

### Description of Research Location

Toroh Public Health Center I is one of Public Health Center under the working area of the Grobogan District Health Office. Administratively, Toroh Public Health Center I provides health services in the area or villages of Sindurejo, Depok, Glonglong, Genengadal, Dimoro, Katong, Pilang Payung, Sugihan, Karang Harjo, Tambirejo and Bandung Harjo. The work programs run by Toroh Public Health Center I include Posyandu, Posbindu, Pregnant Class, Alert Village and Poskesdes. Puskesmas Toroh I has 2 main buildings, namely inpatient and outpatient care with 2 general practitioners, 26 midwives, 24 nurses.

### Characteristics of Research Respondents

Based on the data in **Table 1**, it can be seen that the characteristics of the respondents based on age, parity, gestational age in the third trimester and frequency of perineal massage. The age of the respondents is mostly in the age group 20 - 35 years (77% of 48 respondents), parity is mostly multiparous (67% of 48 respondents), gestational age is mostly 35 - 38 weeks (69 % of 48 respondents) and frequency of massage perineum mostly  $\geq 5$  weeks (85 % of 48 respondents).

Age is a characteristic that can affect the reproductive process. Age <20 years has a high risk in the reproductive process because the reproductive organs have not functioned properly, so that if pregnancy and childbirth occurs, complications will be easier. The risk of childbirth can occur in women who have never given birth in the age group of mothers under 20 years and in the age group over 35 years is 3 times higher than

**Table 1. Frequency distribution of respondent characteristics by age and parity at Toroh Public Health Center I in 2020**

Characteristics	N	%
Age		
<20 years	3	6
20 - 35 years	37	77
> 35 years	8	17
Parity		
Primipara	16	33
Multipara	32	67
Grandemultipara	0	0
Gestational Age		
35 – 38 week	33	69
39 – 42 week	15	31
Perineal Massage Frequency		
< 5 x/week	7	15
$\geq 5$ x/week	41	85
<b>Total</b>	<b>48</b>	<b>100</b>

Source: Primary Data, 2020

the healthy reproductive age group (20-35 years). The parity characteristic indicates the number of previous pregnancies that have reached the limit of viability and have been born, regardless of the number of children. Parity is a risk factor for perineal tears (11)(12)hematoma, fi stula, and infection. Based on the baseline study in RSUD Muntlan Magelang District, the number of normal deliveries in November 2013 to June 2014 found 612 people with normal delivery (spontaneous).

Gestational age is divided into 3 (three), including trimester I (0-12 weeks), trimester II (13-27 weeks) and trimester III (28 - 42 weeks). Pregnant women with late gestational age are prepared for the delivery process, both physically and psychologically. Perineal massage, as a non-pharmacological method, can be used to prevent perineal rupture in laboring mothers. The implementation of perineal massage can be started from 34 weeks of gestation until before delivery, with a frequency of 5-6 times a week (13).

### Univariate Analysis

#### Implementation of Perineal Massage

**Table 2** shows the frequency distribution of perineal massage , where there are 2 (two) groups

of subjects, namely 24 respondents (50%) who were given perineal massage treatment and 24 respondents (50%) controls who were not given perineal massage.

**Table 2. Frequency distribution of dependent variables / free implementation of perineal massage at Toroh I Health Center in 2020**

Variable	N	%
Implemented	24	50
Not Implemented	24	50
<b>Total</b>	<b>48</b>	<b>100</b>

Source: Primary Data, 2020

Perineal massage is a preventive effort using a simple / traditional method that aims to make the pelvic floor muscles more elastic and relaxed so as to improve health. Implementation of perineal massage can be done from 36 - 42 weeks of gestation (4 - 6 weeks before delivery), with the condition of pregnant women who are healthy / without infection in the external genitalia area. Pregnant women who do perineal massage will reduce trauma during childbirth. Some of the benefits of perineal massage, such as stimulating blood flow to the *perineum*, will help speed up the healing process after childbirth, help the mother relax during vaginal examinations (*vaginal touche*), help prepare her mentally for pressure and strain *perineal* when the baby's head will come out and avoid incidents *episotomy* or tearing of the *perineum* during childbirth by increasing the elasticity of the *perineum* (13)

The results of a study conducted by Fatimah and Lestari (2018) showed that 58.6% of pregnant women who performed perineal massage after being given education were 58.6% (34 people), while 41.4% (24 people) did not perform post-educational perineal massage. Perineal massage is carried out independently by pregnant women since the gestational age of more than 36 weeks according to the existing theory and there are several pregnant women who are assisted by their husbands in implementing massage. Pregnant

women who did not do post-educational perineal massage gave reasons such as fear of contractions and pain in the perineal area (14).

Several studies say, perineal massage can be an alternative to reduce maternal pain during childbirth. In primiparous mothers, perineal massage will reduce perineal trauma during delivery either due to spontaneous perineal rupture or episiotomy. In addition, perineal massage can also accelerate wound healing in the event of perineal trauma. During childbirth, perineal massage can prevent the occurrence of long Kala I and II stages (8)(10).

### Perineal Rupture Incidence

**Table 3** shows that from 2 (two) groups Subjects observed, there were 58% (28 respondents) who did not experience a rupture during delivery, while 42% (20 respondents) experienced perineal rupture.

**Table 3. Frequency distribution of bound variables incidence of perineal rupture at Toroh Public Health Center I in 2020**

Variable	N	%
Perineal Rupture	20	42
No perineal rupture	28	58
<b>Total</b>	<b>48</b>	<b>100</b>

Source: Primary Data, 2020

The perineum is an external reproductive organ consisting of muscles and fascia urogenitalis and pelvic diaphragm. The perineum plays an important role during labor and is often damaged resulting in bleeding. Perineal injury / perineal tear is a natural tissue damage or due to an episiotomy due to the pressure of the fetus's head or shoulder during labor. Perineal tears are classified into 4 (four), namely grade 1, grade 2, grade 3 and grade 4. Risk factors for perineal rupture are grouped from maternal factors (parity, birth distance, method of delivery, perineal conditions and partus precipitate) and fetal factors (weight baby body) (13)

A study conducted in 2014 - 2016 found 75.3% perineal tears (1201 cases). The risk factors

**Table 4. Implementation of the cross tabulation and genesis massage perineum perineum rupture at Toroh Public Health Center I 2020**

Genesisrupture perineum	Massage perineum			P-value	OR
	Executed	Not Executed	Total		
Rupture	21 75%	7 25%	28 (100%)	0.000	18.143
Rupture	3 15%	17 85%	20 (100%)		
Total	24 50%	24 50%	48 (100%)	N: 48	

found in the case include parity, birth weight and second stage long. The incidence of perineal tear often occurs in primiparous mothers (85.05%), young mothers (80.55%) and mothers aged > 35 years 69.14% (11).

### Bivariate Analysis

**Table 4** shows the cross tabulation between the implementation of perineal massage and the incidence of uterine rupture. From this table it can be described, that the majority of mothers who do perineal massage 75% (21 respondents) do not experience perineal rupture, while the majority of mothers who do not do perineal massage 85% (17 respondents) experience perineal rupture.

### DISCUSSION

Based on the results of the bivariate test using the test, it *Fisher Exact Probability* shows that there is a correlation or relationship between perineal massage and the incidence of perineal rupture. This is indicated by the *p-value* <0.05 with OR: 18.142 at the 95% confidence level. This means that the possibility of mothers who do not perform perineal massage is 18.143 times more likely to experience perineal rupture when compared to mothers who do perineal massage.

According to researchers, efforts to prevent perineal tears can be carried out independently by pregnant women under the supervision of health workers / midwives. One of the activities that pregnant women can do in preventing the occurrence of perineal tearing during childbirth is

with the perineal massage method. Midwives can provide perineal massage education during ante natal care or during pregnancy class activities. Pregnant women are expected to be active in making independent efforts to improve their health, so that morbidity and mortality can be reduced. The benefits of perineal massage are very good in the delivery process, because the more elastic perineal muscles will help the mother in the process of expelling the fetus without excessive pain. In addition, complications that may arise due to perineal tears are indirectly prevented, so that maternal mortality due to complications of childbirth will be reduced.

Perineal massage is a non-pharmacological method that can be used to prevent perineal tearing during childbirth. Indications for the implementation of perineal massage include pregnant women with a maximum age of 30 years, primigravida, rigid perineum and a history of episiotomy. Pregnant women can start perineal massage at 36 weeks of gestation (4 - 6 weeks), either independently or with assistance. Perineal massage is carried out before childbirth to stimulate the release of hormones that can soften connective tissue, so that during labor, the perineum is elastic and can be maximally stretched (13).

The results of a study conducted by Musa (2019), cases of bleeding during the puerperium are caused by major risk factors such as uterine atony (70%), birth canal lacerations (20%), retained placenta (10-20%) and coagulopathy (1%). Meanwhile, other risk factors that have the

potential for bleeding during the puerperium include prolonged stage III, multi gravida, episiotomy, fetal macrosomia, history of hemorrhage *post-partum* and spontaneous twin delivery. Hemorrhage is *Post partum* estimated to be 24% as a contributor to maternal mortality in developing countries. Handling practices that are still below standard are a contributor to maternal mortality (5).

The study states that there is an effect of perineal massage on the prevention of perineal rupture in women who give birth. Perineal massage provides maternal benefits in reducing labor trauma. Post-perineal massage improves blood flow, thus contributing to the healing process after childbirth, the mother will be more relaxed during the internal examination, reduce pain due to perineal strain when the fetal head comes out and minimize episiotomy. Perineal massage can be done as early as possible before delivery independently by pregnant women or with the help of a partner. Maximum results can be obtained if the mother performs regular perineal massage every day. Mothers who have undergone perineal massage, but still experience rupture, are usually due to the mother's irregularity in undergoing perineal massage (15).

A case control study in Turkey, performed perineal massage on pregnant women aged 37 - 42 weeks until the mother gave birth in the latent phase with a maximum opening of 4 cm. Perineal massage is performed 4 times during the first stage of labor and 10 minutes during the second stage of labor. From 142 respondents, it is known that the implementation of perineal massage is quite effective in reducing episiotomy and spontaneous perineal rupture. In addition, Kala II labor duration was faster in primigravidas and multigravidas (9) Turkey, between January 1, 2010, and May 31, 2011. Healthy pregnant women presenting for their first or second delivery at 37-42 weeks of pregnancy were enrolled during the first stage of labor. Participants were randomly assigned (1:1.

## CONCLUSION AND RECOMMENDATION

The results showed that the results of the bivariate test using the Fisher Exact Probability test showed that there was a correlation or relationship between perineal massage and the incidence of perineal rupture, indicated by a p-value <0.05 with OR: 18.142 at the 95% confidence level. This means that the possibility of mothers who do not perform perineal massage is 18.143 times more likely to experience perineal rupture when compared to mothers who do perineal massage. Perineal massage is an alternative option in preventive efforts to reduce cases of post partum hemorrhage due to perineal rupture. Midwives play an important role in being a companion and providing health education to pregnant women and their partners, so that pregnant women can independently seek their health. With efforts to improve the quality of optimal services, reducing maternal mortality can be achieved according to the national target in 2024.

## REFERENCES

1. Peraturan Presiden Republik Indonesia. Rencana Pembangunan Jangka Menengah Nasional. Peraturan Presiden Republik Indonesia Nomor 18 Tahun 2020. 2019;313.
2. Kementerian Kesehatan RI. Data dan Informasi Profil Kesehatan Indonesia 2019. Jakarta. 2020. 1–5 p.
3. Dinas Kesehatan Provinsi Jawa Tengah. Profil Kesehatan Provinsi Jawa Tengah Tahun 2019. Jawa Tengah. 2019;3511351(24):273–5.
4. Dinas Kesehatan Kabupaten Grobogan. Laporan Angka Kematian Ibu. Grobogan; 2019.
5. Siti Mardhatillah Musa. Insiden Dan Faktor Risiko Perdarahan Postpartum Pada Persalinan Pervaginam: Studi Literatur. Jurnal JKFT Universitas Muhammadiyah Tanggerang. 2019;4(2):28–35.
6. Ikatan Bidan Indonesia. Buku Acuan Midwifery Update. Jakarta: Pengurus Pusat Ikatan Bidan Indonesia; 2016.

7. Aprillia Yesie. *Hipnostetri. Pertama*. Jagakarsa: Gagasmedia; 2010.
8. Purnami RW, Noviyanti R. Effectiveness of Perineal Massage During Pregnant Women on Perineal Laseration. *Jurnal Kesehatan Madani Medika*. 2019;10(2):61–8.
9. Demirel G, Golbasi Z. Effect of Perineal Massage on The Rate of Episiotomy and Perineal Tearing. *International Journal of Gynecology & Obstetrics [Internet]*. 2015;131(2):183–6. Available from: <http://dx.doi.org/10.1016/j.ijgo.2015.04.048>
10. Haryanti P. The Effect of Perineal Massage on Perineal Status and Duration of Labor. *Jurnal Keperawatan Soedirman*. 2019;14(2).
11. Pangastuti N. Robekan Perineum pada Persalinan Vaginal di Bidan Praktek Swasta (BPS) Daerah Istimewa Yogyakarta Indonesia Tahun 2014-2016. *Jurnal Kesehatan Reproduksi*. 2016; 3(3);179–187.
12. Prawitasari E, Yugistyowati A, Kartika Sari D. Penyebab Terjadinya Ruptur Perineum pada Persalinan Normal di RSUD Muntilan Kabupaten Magelang. *Jurnal Ners dan Kebidanan Indonesia*. 2016;3(2):77.
13. Rochmayanti, Shinta Nur & Ummah K. *Pijat Perineum Selama Masa Kehamilan : Kejadian Rupture Perineum Spontan*. Surabaya: CV Jakad Publishing; 2019.
14. Fatimah dan Lestari P. Hubungan Pemberian Edukasi Pijat Perineum dengan Pelaksanaan Pijat Perineum pada Ibu Hamil Trimester III. *Prosiding Seminar Nasional Vokasi Indonesia Volume 1*. 2018;1(November):35–9.
15. Mutmainah H, Yuliasari D, Mariza A. Pencegahan Rupture Perineum pada Ibu Bersalin dengan Pijat Perineum. *Jurnal Kebidanan*. 2019;5(2):137–43.