

## The Effectiveness of Perineal Massage and Kegel Exercises Against Perineal Rupture of Maternity Women at Rsi Yatofa Bodak, Central Lombok Regency

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### Abstract

Maternal death and morbidity are serious health problems in developing countries. Based on the 2018 Riskesdas data, around 23.2% of deliveries experienced complications, one of which was bleeding caused by perineal rupture. Perineal rupture can be prevented by giving perineal massage and doing kegel exercises. This study was purposed to determine the effectiveness of perineal massage and kegel exercises on perineal rupture in pregnant women at Yatofa Hospital, Bodak, Central Lombok Regency. This research was designed as a pre-experimental study with a quantitative approach with an intact group comparison. The population of this study was pregnant women at Yatofa Hospital and 44 respondents of the third trimester of pregnancy who underwent antenatal care and delivery at RSI Yatofa, Bodak, Central Lombok Regency were taken as samples, divided into 2 groups, namely the perineal massage group and the kegel exercise group. The sampling technique used in this research was accidental sampling. Based on the results of this study, 15 respondents (68.2%) did not experience perineal rupture in the perineal massage group, while in the Kegel exercise group 12 respondents (59.1%) did not experience perineal rupture. Based on the *Mann-Whitney test analysis* with the help of SPSS version 26 with 44 respondents, the p value > 0.05. It is suggested that there is no statistically significant effectiveness between the perineal massage bermakna secara statistik antara kelompok perlakuan pijat perineum dan senam kegel.

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## 1. INTRODUCTION

Maternal mortality and morbidity are currently serious health problems in developing countries. According to the 2015 World Health Organization (WHO) report, the Maternal Mortality Rate (MMR) in the world is 216 per 100,000 live births or the estimated number of maternal deaths is 303,000 deaths, with the highest number being in developing countries, namely 302,000. Several countries have quite high MMRs, such as Sub-Saharan Africa with 179,000 people, South Asia with 69,000 people and Southeast Asia with 16,000 people. The maternal mortality rate in Indonesia is 190 per 100,000 live births, Vietnam 49 per 100,000 live births, Thailand 26 per 100,000 live births, Brunei 27 per 100,000 live births, and Malaysia 29 per 100,000 live births (WHO, 2014).

Based on the 2030 Sustainable Development Goals (SDGs), there are 38 targets in the health sector that must be realized. Among other things, there is a reduction in the Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR). By 2030, the target is to reduce the MMR ratio to less than 70 per 100,000 live births (Bappenas, 2021).

From 2018 Riskesdas data, nationally 23.2% of births experienced complications. The most common type of complication is breech/transverse fetal position (3.1%), second is bleeding 2.4%. The NTB Province Health Profile notes that the number of maternal deaths

in NTB Province has decreased over the last 5 years. During the 2013-2017 period, there was a decrease in the number of maternal deaths in NTB Province by 32 people, in the same period the average decrease in the number of deaths reached 8.45% per year. In Central Lombok Regency there were 24 people. (NTB Health Profile, 2017)

The Maternal Mortality Rate (MMR) in Central Lombok Regency from 2015-2019 tends to increase from 93.4 to 123.1 per 100,000 live births. The most common causes of maternal death were hypertension in pregnancy with 14 cases (46.7%), bleeding in 8 cases (26.7%), metabolic disorders in 1 case (3.3%), infection in 1 case (3.3%) and others 6 cases (20%). One of the causes of maternal death is bleeding. The most common cause of bleeding is uterine atony or absence of uterine contractions, and the second most common cause is perineal rupture.

Factors that cause perineal rupture can occur directly or indirectly. Indirectly, pregnancy is influenced by knowledge, education, prenatal care and the mother's physical condition. Meanwhile, the time of delivery is directly influenced by parity, how to push, and the condition of the perineum. Fetal factors include the weight of the newborn and the baby's presentation (Turlina, 2015). According to Riswati (2015), spontaneous perineal rupture occurs due to tension in the vaginal area during childbirth, and can also occur due to the psychological burden of facing the birth process.

Danger and Complications resulting from perineal rupture include bleeding and infection as well as discomfort. Bleeding from a birth canal rupture can be severe, especially in second- or third-degree birth canal ruptures or if the rupture extends to the side or up the vulva, involving the clitoris. Perineal wounds can easily become infected because their location close to the anus means they are frequently contaminated with feces. Infection can also be a reason why wounds do not heal quickly, causing scar tissue to form, causing discomfort (Turlina, 2015).

Perineal rupture can be prevented in various ways, including Kegel exercises during pregnancy, correct positioning during menstruation, prenatal yoga, and perineal massage. Perineal massage is a technique for massaging the perineum during pregnancy or a few weeks before giving birth. Perineal massage can increase blood flow to the perineum and vagina so that the perineum and vagina become elastic. Perineal massage also helps relax the pelvic floor muscles so that the tissue will open without resistance during labor to facilitate the birth of the baby. Perineum perineal massage and episiotomy. Perineal massage can help soften the perineal tissue (Safrudin et al, 2009).

Perineal massage can be done at a gestational age of >34 weeks or around 1-6 weeks before giving birth (Indrayani and Tuasikal, 2020). The perineal massage technique is very safe and not dangerous so it can be done every day for 5-10 minutes, but it is not recommended to do perineal massage on mothers who have urinary tract infections or sexually transmitted infections such as herpes and fungal infections. This is supported by research by Savitri et al (2014) which stated that the incidence of perineal rupture was higher in the control group compared to the intervention group.

Data from the patient register at RSI Yatofa shows that the number of patients giving birth normally during 2020 reached 486 people. Of the total patients who experienced perineal rupture during the normal delivery process, there were 110 people or 22.6% of the total patients giving birth normally. The measure to prevent uterine rupture that is carried out in the delivery room at RSI Yatofa is to perform an episiotomy, while other preventive measures or preparations such as Kegel exercises have not been carried out.

Based on the problems above, researchers are interested in conducting research with the title "Effectiveness of perineal massage and Kegel exercises on perineal rupture of pregnant women at RSI Yatofa Bodak, Central Lombok Regency".

**2. METHOD**

This research is pre-research of experimental with a quantitative approach through an intact group comparison design. The population in this study were third trimester pregnant women who underwent pregnancy and delivery checks at RSI Yatofa, Bodak, Central Lombok Regency, totaling 44 respondents, who were divided into 2 groups, namely the perineal massage group and Kegel exercises. The instruments used were a questionnaire sheet for perineal massage and Kegel exercises carried out by the mother and a birth observation sheet. The sampling technique in the research was accidental sampling and data analysis using the nonparametric Mann-Whitney test (difference test between two independent groups).

**3. RESULTS**

There were 44 respondents who participated in this research. These respondents were third trimester pregnant women who underwent pregnancy and delivery checks at RSI Yatofa, Bodak, Central Lombok Regency. This number is third trimester pregnant women who are willing to fill out the questionnaire. The normality test carried out was the Shapiro Wilk normality test because the number of samples was less than 50.

**Table 1. Provides an overview of the characteristics of respondents based on age**

| No. | Age                           | Number (n) | Percentage (%) |
|-----|-------------------------------|------------|----------------|
| 1   | < 20 years                    | 2          | 4.5%           |
|     | 20 to 35 year                 | 34         | 77.3%          |
|     | > 35 years                    | 8          | 18.2%          |
| 2   | Education elementar y school  | 1          | 2.3%           |
|     | JUNIOR HIGH SCHOOL            | 7          | 15.9%          |
|     | SENIOR HIGH SCHOOL            | 27         | 61.4%          |
|     | College                       | 9          | 20.5%          |
| 3   | Job Housewife                 | 24         | 54.5%          |
|     | ladder Civil servant/honorary | 6          | 13.6%          |
|     | Trader Market                 | 8          | 18.2%          |
|     | Employee                      | 6          | 13.6%          |
|     | Total                         | 132        | 100%           |

Source: primary data

Based on table 1 regarding the distribution of 44 respondents, the majority of respondents were in the 20-to-35-year age category, namely 34 people (77.3%), the

majority of respondents had a high school education level, namely 27 people (61.4%). And most of the respondents were housewives, namely 24 respondents (54.5%).

**Table 2 Distribution of respondents by treatment group**

| Group            | Number (n) | Percentage (%) |
|------------------|------------|----------------|
| Perineal massage | 22         | 50%            |
| Kegel exercises  | 22         | 50%            |
| Total            | 44         | 100%           |

Source: primary data, processed 2022

Based on table 2, it shows that the respondents were divided into 2 based on treatment groups, namely 22 respondents (50%) each.

**Table 3 Frequency distribution of respondents based on the incidence of perineal rupture**

| Incident Rupture | Frequency (n) | Percentage (%) |
|------------------|---------------|----------------|
| Rupture          | 16            | 36.4%          |
| Norupture        | 28            | 63.6%          |
| Total            | 44            | 100%           |

Source: primary data

Based on table 3, it shows that the majority of respondents did not experience perineal rupture, namely 28 respondents (63.6%), and 16 respondents (36.4%) experienced rupture.

**Table 4 Normality Test and Mann-Whitney Test Analysis Comparison of Perineal Massage and Kegel Exercises on Perineal Rupture at RSI Yatofa, Bodak, Central Lombok.**

**Tests of Normality**

| Intervensi            | Kolmogorov-Smirnov <sup>a</sup> |    |      | Shapiro-Wilk |    |      |
|-----------------------|---------------------------------|----|------|--------------|----|------|
|                       | Statistic                       | df | Sig. | Statistic    | df | Sig. |
| Ruptur Pijat perineum | .430                            | 22 | .000 | .590         | 22 | .000 |
| Senam kegel           | .383                            | 22 | .000 | .628         | 22 | .000 |

a. Lilliefors Significance Correction

| Intervensi            | N  | Mean Rank | Ranks  |
|-----------------------|----|-----------|--------|
| Ruptur Pijat perineum | 22 | 23.50     | 517.00 |
| Senam kegel           | 22 | 21.50     | 473.00 |
| Total                 | 44 |           |        |

**Test Statistics<sup>a</sup>**

|                        | Ruptur  |
|------------------------|---------|
| Mann-Whitney U         | 220.000 |
| Wilcoxon W             | 473.000 |
| Z                      | -.620   |
| Asymp. Sig. (2-tailed) | .536    |

a. Grouping Variable: Intervensi

Based on the Mann-Whitney test results in Table 4 with the help of SPSS version 26 with a total of 44 respondents with a significance level of (0.05), the value of  $p=0.536$  ( $p>0.05$ ) was obtained. This shows that there is no difference between perineal massage and Kegel exercises on the incidence of perineal rupture in pregnant women at RSI Yatofa, Bodak.

#### 4. DISCUSSION

##### 1. Perineal Massage Against Perineal Rupture

Based on table 4.6 from the cross-tabulation results, it is known that 15 of the 22 respondents in the perineal massage group (68.2%) did not experience perineal rupture and 7 people experienced perineal rupture (31.8%). This is because respondents did not regularly massage the perineum 2-3 times a week during pregnancy. Perineal massage can help stretch the inner tissues under the vagina and relax the pelvic floor muscles (Sarwono, 2008). Perineal massage performed during antenatal care starting at 34 weeks of pregnancy will reduce the possibility of perineal trauma, help reduce episiotomy and the risk of perineal laceration (Indrayani and Tuasika, 2020). Wewet (2014) proved that in the intervention group who received perineal massage, 21.4% fewer perineal ruptures occurred compared to the control group who did not receive perineal massage, namely 71.4%. Research conducted by Ugwu (2018) found that mothers who received perineal massage had an intact perineum after giving birth as much as 59% compared to mothers who did not receive perineal massage as much as 29.1%, so the incidence of episiotomy was significantly higher. low in perineal massage (Ugwu et al, 2018).

Perineal massage can stimulate connective tissue and collagen in the perineum, causing the perineum to become elastic, flexible and supple when the perineum stretches during childbirth. For this reason, it is necessary to massage the perineum to help soften the perineal tissue. This theory is supported by research conducted by Kusumawati et al (2018) which concluded that the duration of the second stage was shorter in mothers who did perineal massage compared to mothers who did not do perineal massage (Indrayani and Tuasikal, 2020).

But there are several studies that show that perineal massage is not effective in preventing perineal rupture. Research conducted by Purnami RW (2019) showed that there was no significant difference between the groups that received perineal massage and those who did not receive perineal massage. In research conducted by Lisa UF and Harmiilidyaa MR (2017) it was also found that statistically perineal massage was not effective in preventing perineal rupture.

##### 2. Exercise of Kegel Against Perineal Rupture

In the Kegel exercise group, 13 respondents (59.1%) did not experience perineal rupture and 9 respondents experienced perineal rupture (36.4%). This is because the pelvic floor muscles have never been stretched before, especially in primigravida pregnant women, although there are still other things that can influence them, such as maternal, fetal and helper factors, so that motivation can be given to pregnant women to do Kegel exercises regularly. during pregnancy to prevent perineal rupture. From research conducted by Khasanah (2014) it also shows that 60% of pregnant women who do Kegel exercises do not experience rupture. Perineum. Research conducted by Iqmy and Minhayati (2019) on mothers giving birth, it was found that the average perineal rupture of mothers who did Kegel exercises was 0.67 with a standard deviation of 0.617, while the average perineal rupture of mothers who did not do Kegel exercises

was 1.20. with a standard deviation of 0.676.

Meanwhile, according to Kristianti's research (2015), primigravida pregnant women who did Kegel exercises (6.25%) experienced grade I perineal rupture, 37.5% experienced grade II perineal rupture and 56.25% experienced grade II perineal rupture. III. The results of the study showed that there was no relationship between Kegel exercises in pregnant women and the degree of perineal rupture.

### 3. Comparison of Perineal Massage and Kegel Exercises Against Perineal Rupture

After carrying out the Mann-Whitney test for the two treatment groups, it was found that there was no statistically significant difference between the perineal massage and Kegel exercise groups, even though the percentage of the perineal massage group did not experience perineal rupture (68.2%) compared to the Kegel exercises (59.1%). Based on table 4.6, you can see the test results using the Mann-Whitney test with SPSS version 26 with a total of 44 respondents with a significance level of (0.05), obtaining a value of  $p=0.536$  ( $p>0.05$ ). This means that  $H_a$  is rejected and  $H_0$  is accepted.

This shows there is no difference between perineal massage and Kegel exercises on the incidence of perineal rupture in pregnant women at RSI Yatofa, Bodak. Research conducted by Rahayu et al (2015) found that perineal massage is better than Kegel exercises. The research results showed that 77.8% of the perineal massage group experienced first-degree ruptures and the rest experienced more extensive lacerations, namely second and third degrees. This study concluded that perineal massage was better at reducing perineal tearing than Kegel exercises.

A comparison between perineal massage and Kegel exercises was also carried out in research by Dewi ASK et al (2020), 20 respondents were divided into 2 groups, namely 10 respondents to the perineal massage intervention and 10 respondents to the Kegel exercise intervention. The results of the bivariate analysis showed that there was a difference in the effectiveness of perineal massage with Kegel exercises on the incidence of perineal rupture ( $p=0.046$ ), it can be concluded that perineal massage is more effective in reducing the incidence of perineal rupture compared to Kegel exercises.

The incidence of perineal rupture in mothers in the perineal massage intervention group was 40% without rupture, while in the Kegel exercise intervention group 20% did not experience rupture. The difference in the degree of rupture in primigravida mothers is partly caused by the perineum becoming more elastic, the mother feeling more comfortable and able to control herself when pushing and the mother being better able to prepare mentally for the stretch of the perineum by the baby's head (Rahayu et al, 2015).

## 5. CONCLUSION

The conclusion shows that there is no statistically significant effectiveness between the perineal massage and Kegel exercise treatment groups.

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