

## THE EFFECT OF KEGEL EXERCISES ON PERINEAL WOUND HEALING IN POSTPARTUM MOTHERS

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*The purpose of this study was to determine the effect of Kegel exercises on the healing of perineal wounds in postpartum mothers at the Niar Pratama Clinic and the Citra Pratama Clinic, Deli Serdang Regency. The design used in the study was a quasi-experimental method with a static group comparison, which is a type of research to determine the effect of an action on a group of subjects who received treatment, then compared it with a group that did not receive treatment. This research was conducted at the Niar Pratama Clinic and the Citra Pratama Clinic, Deli Serdang Regency which was carried out in November 2019 - November 2020. The sampling design was based on purposive sampling, namely postpartum mothers with perineal injuries of degree I. The number of samples was 60 people who received treatment 30 people, while the control group was 30 people. Data analysis was carried out after all data had been collected by re-examining all the questionnaires one by one and ensuring that all data had been filled in according to the instructions. Then provide a code for all the questions that have been asked to make it easier for researchers when tabulating and analyzing data. Data were tabulated and analyzed using the Median Test (Mann-Whitney U-Test) with a significance level of < 0.05. The results of this study are that there is a difference in wound healing in post partum mothers who do Kegel exercises when compared to mothers who do not do Kegel exercises with a difference of 18.76 points and there is an effect of Kegel exercises on perineal wound healing in postpartum mothers at the Pratama*

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*Niar Clinic and Pratama Clinic. Image of Deli Serdang Regency.*

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## INTRODUCTION

The process of pregnancy, childbirth and postpartum is still something that is risky and can be life threatening for women and babies in Indonesia (Zainiyah & Susanti, 2020). The results of the 2015 Inter-Census Population Survey stated that the maternal mortality rate (MMR) in Indonesia was 305 per 100 thousand live births (Manik, Triyoga, Siregar, Rochadi, & Poddar, 2022). In 1 hour, Indonesia lost 2 mothers and 8 newborns due to deaths, most of which could actually be prevented (Orlandi et al., 2018). The causes of maternal death are formulated as 4 Too 3 Too late, namely: Too young (<20 years) Too old (>35 years) Too often or many children (>3 children) Too close in birth spacing (<2 years) Too late to make a decision Late until in health facilities it was too late to get adequate help, because it was too late so that in handling it was too late (Gunawan, Widyaningtyas, Wibawa, Darusalam, & Pranolo, 2018). Research conducted by the Faculty of Public Health, University of Indonesia (FKM-UI) revealed that 75% of maternal deaths were caused by bleeding severe (mostly postpartum), infection, high blood pressure during pregnancy, obstructed labor, unsafe abortion. It was also stated that the case of the mother died due to obstetric complications that were not handled properly and on time.

The puerperium is a period that requires serious treatment to prevent complications, including infection (Phillips & Walsh, 2020). Infection can occur due to injury to the perineum (Jones, Webb, Manresa, Hodgetts-Morton, & Morris, 2019). When going through an exciting and stressful labor, you should be aware of post-delivery infections. Wounds due to perineal tears are susceptible to infection. Cases of episiotomy infection are relatively small, and the risk is 1-4%. The severity varies depending on the area and depth of the infected tissue. Starting from the vagina, vulva (outer and inner lips), it can even spread to the uterus. Generally, it occurs 1-2 days after delivery (Richards & Wood, 2018).

One of the actions that can be taken to speed up the healing process of perineal wounds is to carry out Kegel exercise (Budiyarti, 2019). This exercise is carried out to increase blood circulation around the genitalia.

Research from Martini, DE (2015) on "Effectiveness of Kegel Exercises on Accelerated Healing of Perineal Wounds in Postpartum Mothers at the Kali Tengah Lamongan Health Center" showed that almost all mothers (93.3%) in the treatment group experienced fast wound healing and a small percentage (6, 7%) experienced slow wound healing, compared to the control group more than half (66.7%) experienced slow wound healing and some (33.3%) experienced fast wound healing. The results of the Mann-Whitney test obtained a Z value of -3.352 with a significance of 0.001 ( $p < 0.05$ ) so it can be concluded that Kegel exercises are effective for accelerating the healing of perineal wounds. Research from Antini, A (2016) on "Effectiveness of Kegel Exercises Against Perineal Wound Healing Time in Normal Post Partum Mothers" shows the average healing time of perineal wounds in the Kegel exercise group is 6 days with a minimum limit of 5 days and a maximum of 7 days faster compared to the mobilization group the average was 7 days, the minimum limit was 4 days and the maximum was 9 days. The results of the bivariate analysis obtained a P value = 0.000, so it can be concluded that

there is a significant relationship between the length of time for wound healing between mothers doing Kegel exercises and mothers doing mobilization in postpartum mothers. Research from Ridhayanti, A (2014) on "The Relationship Between Kegel Exercises and Healing of Perineal Suture Wounds in Post Partum Mothers at Afiatun Hasanah Hospital, Bandung City" shows that from 24 samples, in the first evaluation, group I obtained 10 people while Group II only 4 people showing a normal perineal appearance. In the second evaluation in group I the entire sample (12 people) while in group II only 8 people showed a normal perineal appearance. The results of the Pearson correlation test showed a correlation of 0.742 with a p value of 0.006 and a p value of <0.05. This means that there is a relationship between Kegel exercises and perineal suture wound healing.

Based on the results of a preliminary survey conducted at the Niar Pratama Clinic on November 8, 2019, it was found that the number of postpartum mothers from January-June 2019 was 153 people, of which 105 people experienced perineal injuries (68.63%), second degree as many as 20 people (13.07%) and 28 people without hecing (18.3%), the average number of postpartum mothers was 38 people. Meanwhile, at the Pratama Citra Clinic, Deli Serdang Regency, the number of postpartum mothers from July-October 2019 was 184 people, of which 117 people (63.58%), second-degree perineal injuries (11.4%) had no hecing as many as 46 people (25%) every month an average of 10 people. The average number of postpartum mothers is 30 people.

Based on the above, the researchers wanted to do research on "The Effect of Kegel Exercises on Healing Perineal Wounds in Postpartum Mothers at Niar Pratama Clinic and Citra Pratama Clinic, Deli Serdang Regency".

## RESEARCH METHOD

The design used in the study was a quasi-experimental method with a static group comparison, which is a type of research to determine the effect of an action on a group of subjects who received treatment, then compared it with a group that did not receive treatment (Sutomo, Wahyudi, Pangestuti, & Muharam, 2020). This research was conducted at Niar Pratama Clinic and Citra Pratama Clinic, Deli Serdang Regency. The study was conducted in November 2019 - November 2020. The population of this study were postpartum mothers with grade I perineal injuries who were treated at the Pratama Niar Clinic and Pratama Citra Clinic, Deli Serdang Regency.

Sample of this study were all postpartum mothers who experienced first-degree perineal injuries at the Niar Pratama Clinic and the Citra Pratama Clinic, Deli Serdang Regency. The sampling design was based on purposive sampling, namely postpartum mothers with grade I perineal injuries (Afni & Ristica, 2021). The number of samples was 60 people, where 30 people were treated, while the control group was 30 people. Data collection was carried out in 2 (two) clinics, each with 30 respondents. Prior to the intervention, the respondents were given information about their participation in the study. If the mother agrees, then the mother fills out the informed consent (Combs et al., 2019). The intervention group was given Kegel exercises every day for seven days (until the perineal wound healed), then evaluation was carried out on the seventh day of the puerperium. While the control group was not given any treatment, the perineal wound was observed on the seventh day of the puerperium. Data analysis was carried out after all data had been collected by re-examining all the questionnaires one by one and ensuring that all data had been filled in according to the instructions (McManus, Mason, & Young, 2021). Then provide a code for all the questions that have been asked to make it easier for researchers when tabulating and analyzing data (Drosos, Barik, Guo, DeLine,

& Gulwani, 2020). Data were tabulated and analyzed using the Median Test (Mann-Whitney U-Test) with a significance level of < 0.05.

## RESULT AND DISCUSSION

### A. Description of Research Locations

This research was conducted in a maternity clinic in the work area of the Patumbak Public Health Center, Deli Serdang Regency, namely the Pratama Niar Clinic and the Pratama Citra Clinic.

### B. Demographic Data

To see the demographic data for postpartum mothers at the Niar Pratama Clinic and the Citra Pratama Clinic, Deli Serdang Regency, see Table 1.

**Table 1. Demographic Data of Postpartum Mothers at Niar Pratama Clinic and Citra Pratama Clinic, Deli Serdang Regency**

| No                   | Characteristics of Respondents | Treatment |       | Control |       |
|----------------------|--------------------------------|-----------|-------|---------|-------|
|                      |                                | f         | %     | f       | %     |
| <b>Age</b>           |                                |           |       |         |       |
| 1                    | < 25 age                       | 11        | 36,7  | 9       | 30,0  |
| 2                    | 26-30 age                      | 9         | 30,0  | 14      | 46,7  |
| 3                    | 31-35 age                      | 7         | 23,3  | 6       | 20,0  |
| 4                    | > 35 age                       | 3         | 10,0  | 1       | 3,3   |
| Total                |                                | 30        | 100,0 | 30      | 100,0 |
| <b>Education</b>     |                                |           |       |         |       |
| 1                    | Primary School                 | 2         | 6,7   | 0       | 0     |
| 2                    | Junior High School             | 4         | 13,3  | 5       | 16,7  |
| 3                    | Senior High School             | 19        | 63,4  | 21      | 70,0  |
| 4                    | Diploma                        | 1         | 3,3   | 0       | 0,0   |
| 5                    | Bachelor                       | 4         | 13,3  | 4       | 3,3   |
| Total                |                                | 30        | 100,0 | 30      | 100,0 |
| <b>Job</b>           |                                |           |       |         |       |
| 1                    | Housewife                      | 27        | 90,0  | 27      | 90,0  |
| 2                    | entrepreneur                   | 2         | 6,7   | 2       | 6,7   |
| 3                    | Teacher                        | 1         | 3,3   | 1       | 3,3   |
| Total                |                                | 30        | 100,0 | 30      | 100,0 |
| <b>Childbirth Ke</b> |                                |           |       |         |       |
| 1                    | First                          | 4         | 13,3  | 6       | 20,0  |
| 2                    | Second                         | 15        | 50,0  | 10      | 33,3  |
| 3                    | Third                          | 8         | 26,8  | 10      | 33,3  |
| 4                    | Fourth                         | 1         | 3,3   | 1       | 3,3   |
| 5                    | Fifth                          | 1         | 3,3   | 1       | 3,3   |
| 6                    | Sixth                          | 1         | 3,3   | 2       | 6,8   |
| Total                |                                | 30        | 100,0 | 30      | 100,0 |

Based on table 1, it can be seen that the age of postpartum mothers at the Pratama Niar Clinic and Pratama Citra Clinic, Deli Serdang Regency in the treatment group was more with age <25 age as many as 11 people (36.7%), while in the control group were more with age 26- 30 age as many as 14 people (46.7%), education of postpartum mothers in the treatment group was more with high school as many as 19 people (63.4%) and in the control group more with high school as many as 21 people (70.0%), The work of postpartum mothers in the treatment and control groups was more with IRT each as many as 27 people (63.4%), postpartum mothers in the treatment group more by giving birth to a second child as many as 15 people (50.0%), while in the control group more by giving birth to the second and third children each as many as 10 people (33.3%).

### C. Perineal Wound Healing

To see the healing of perineal wounds in postpartum women at the Niar Pratama Clinic and the Citra Pratama Clinic, Deli Serdang Regency, see Table 2.

**Table 2. Healing of Perineal Wounds in Postpartum Mothers at Niar Pratama Clinic and Citra Pratama Clinic Deli Serdang Regency**

| No | Perineal Wound Healing | Treatment   |      | Control     |      |
|----|------------------------|-------------|------|-------------|------|
|    |                        | f           | %    | f           | %    |
| 1  | Fast                   | 24          | 80,0 | 8           | 26,7 |
| 2  | Slow                   | 6           | 20,0 | 22          | 73,3 |
|    |                        | Mean = 4,83 |      | Mean = 6,97 |      |

Based on table 2, it can be seen that the healing of perineal wounds in postpartum mothers at the Pratama Niar Clinic and Pratama Citra Clinic, Deli Serdang Regency in the treatment group with the fast category as many as 24 people (80.0%), while in the control group as many as 8 people (26.7 %). Then the healing of postpartum women's perineal wounds in the treatment group with the slow category as many as 6 people (20.0%), while in the control group as many as 22 people (73.3%) with an average perineal wound healing in the treatment group 4.83 days and the average perineal wound healing in the control was 6.97 days.

### D. The Effect of Kegel Exercises on Perineal Wound Healing in Postpartum Mothers

To see the effect of Kegel exercises on perineal wound healing in postpartum mothers at the Niar Pratama Clinic and Citra Pratama Clinic, Deli Serdang Regency, it can be seen in Table 3:

**Table 3. The Effect of Kegel Exercises on Perineal Wound Healing in Postpartum Mothers at Niar Pratama Clinic and Citra Pratama Clinic Deli Serdang Regency**

| Variable | Group   | N  | Mean Rank | Sum of Ranks | p-value |
|----------|---------|----|-----------|--------------|---------|
|          |         |    |           |              |         |
|          | Control | 30 | 39,88     | 1196,50      |         |
|          | Total   | 60 |           |              |         |

Based on Table 3, it is found that the mean rank or average rating of each group, namely in the treatment group the average rating is 21.12 lower than the average control group, which is 39.88, meaning that there is a difference in wound healing in post partum mothers where mothers who do Kegel exercises are more recovered quickly when compared to mothers who did not do Kegel exercises with a difference of 18.76 points. This means that it can be concluded that Kegel exercises can accelerate the healing of perineal wounds.

Then based on the median test (mann-whitney u-test) obtained a sig value or p-value of 0.000 <0.05, meaning  $H_0$  is rejected, meaning that there is a significant difference or there is an effect of Kegel exercises on perineal wound healing in postpartum mothers at the Pratama Clinic. Niar and Pratama Citra Clinic, Deli Serdang Regency.

## **Discussion**

### **A. Perineal wound healing**

Perineal wound healing in postpartum women at the Pratama Niar Clinic and Pratama Citra Clinic, Deli Serdang Regency in the treatment group with the fast category as many as 24 people (80.0%), while in the control group as many as 8 people (26.7%) with an average Perineal wound healing in the kegel exercise group was 4.83 days faster than the control group with an average of 6.97 days.

According to Smeltzer (2002), and Ismail (2012) states that the wound healing phase consists of an inflammatory phase that lasts for 1 to 4 days (when the microcirculation is damaged, blood elements such as antibodies, plasma proteins, electrolytes, complement, and water penetrate the vascular space). for 2 to 3 days, causing edema, feeling warm, redness and pain), the proliferative phase, lasting 5 to 20 days, and the maturation phase lasting 21 days to a month or even aging (Ridhayanti, 2013; Ismail, 2012).

In fact, the average perineal wound healing varies, some are normal (< 6 days) and some are slow ( $\geq 7$  days). The speed of perineal wound healing is influenced by several factors including internal factors, namely age, tissue management, haemorrhage, hypovolemia, local edema factors, nutritional deficits, personal hygiene, oxygen deficit and over activity. While the influence of external factors include environment, tradition, knowledge, socio-economics, handling of officers in providing health education for perineal wound care and mobilization exercises, maternal condition and nutrition. One of the supporting factors that can accelerate the healing of perineal wounds is through the recommendation of mobilization by health workers. This mobilization can be directed with various exercises.

Another study is similar to Antini's (2016) study on the effectiveness of Kegel exercises on the healing time of perineal wounds in normal postpartum mothers. The average length of time for perineal wound healing in the Kegel group was 6 days with a minimum limit of 5 days and a maximum of 7 days.

The recommended form of exercise according to Nursalam (2006) is that Kegel exercises will be able to have a good influence on the level of human physical ability if carried out properly and directed, because Kegel exercises can strengthen the pelvic floor muscles, especially the pubococcygeal muscles so that women can strengthen the muscles of the pelvic floor. urinary tract muscles and vaginal muscles so that it has an effect on accelerating the healing process of perineal wounds. In addition to Kegels, there are many

movements that postpartum mothers can do, including lifting the pelvis gradually and others.

The results of Ridhayanti's research (2013) found that the average day for perineal wound healing using Kegel exercises is more than 5-7 days. Meanwhile, according to Dewi Dina's research (2013) which examined the effectiveness of early mobilization on the speed of perineal wound healing, it was found that from 16 respondents, most of the respondents (10) accelerated wound healing more slowly ( $> 7$ ) and only 6 respondents entered the category of fast wound healing. The results showed that the average day of wound healing for kaegel exercises was faster than mobilization (hip lifting exercises).

### **B. Effect of Kegel Exercises on Perineal Wound Healing in Postpartum Mothers**

The results showed that the mean rank or average rating of each group, namely in the treatment group the average rating was 21.12 lower than the average control group, which was 39.88, meaning that there was a difference in wound healing in post partum mothers where mothers who did Kegel exercises were faster. recovered when compared to mothers who did not do Kegel exercises with a difference of 18.76 points. This means that it can be concluded that Kegel exercises can accelerate the healing of perineal wounds. Then based on the median test (mann-whitneyu-test) obtained a sig value or p-value of 0.000  $< 0.05$ , meaning  $H_0$  is rejected, meaning that there is a significant difference or there is an effect of Kegel exercises on perineal wound healing in postpartum mothers at the Niar Pratama Clinic. and Pratama Citra Clinic, Deli Serdang Regency.

Referring to the results of the statistical test, the more Kegel exercises are performed on postpartum women, the more healing the perineal wound will be, and the less Kegel exercises are performed on the postpartum women, the slower the perineal wound healing will be. The effect of Kegel exercises on accelerating the healing of perineal wounds is due to the contraction of the pubococcygeal muscles affecting the circulation of oxygen and improving blood circulation so as to make new tissue grow to close the suture wound (accelerate the proliferative phase).

Paul Fine (2007) in his research explained that the exercise of contraction of the pubococcygeal muscles during pregnancy and postpartum is a good potential in increasing the elasticity of the perineal muscles during labor and accelerating the healing of perineal wounds in postpartum mothers.

According to Proverawati (2012) that the Kegel exercise procedure can be remembered and carried out with activities related to mother's daily activities. Like when you sit in the bathroom after urinating and this is a relaxed position to contract these muscles, and when you want to sleep and under any circumstances. Doing Kegel exercises regularly can help flex the perineal tissue of the mother during childbirth.

The results showed that there was a theoretical suitability and was supported by the results of Ridhayanti's research in 2013 which said that there was a significant relationship between Kegel exercises and the healing of perineal sutures in normal postpartum mothers (p value = 0.006). So it can be concluded that Kegel exercises performed with a frequency of 3 times / day on days 1 and 2 and 5 times / day on days 3, 4, 5, 6 and so on until the perineal wound heals can accelerate wound healing.



Antini's research (2016) on the effectiveness of Kegel exercises on the healing time of perineal wounds in normal postpartum mothers. The average length of time for perineal wound healing in the mobilization group with an average number of days was 7 days, with a minimum limit of 4 days and a maximum of 9 days. According to the opinion of the respondent researchers who did not do Kegel exercises, only a small proportion had fast healing, namely from 30 people as many as 8 (26.7%) people, based on the results obtained from the study, it was assumed that Kegel exercises could accelerate wound healing.

A similar study by Ridhayanti (2011) researched the relationship between Kegel exercises and healing of perineal sutures in normal postpartum mothers at Alfiatun Hasanah Hospital, Bandung City. There is a difference in the healing of perineal wounds before and after Kegel exercises obtained a p-value of 0.001 where 0.001, Kegel exercises are exercises to strengthen the pelvic floor muscles before delivery, the aim is to strengthen the pelvic floor muscles, help prevent urinary incontinence problems, and can flex the tissue. perineum as the baby's birth canal. So that all mothers should be motivated to move the pelvic floor muscles as little and as often as possible, slowly and quickly as labor approaches.

According to the researcher's opinion, many factors affect wound healing, each respondent has its own factors so that the wound healing process is different for each respondent. In the Kegel group, based on the results of the study, it is known that Kegel exercises will be able to have a good influence on perineal wound healing. pelvic floor especially the pubococcygeal muscles so that women can strengthen the urinary tract muscles and vaginal muscles so that it has an effect on accelerating the healing process of perineal wounds. In addition to Kegels, there are many movements that postpartum mothers can do, including lifting the pelvis gradually and others.

## **CONCLUSION**

Based on the analysis and discussion, it can be concluded that there is a difference in wound healing in post partum mothers who do Kegel exercises when compared to mothers who do not do Kegel exercises with a difference of 18.76 points. There is an effect of Kegel exercises on perineal wound healing in postpartum women at the Pratama Niar Clinic and Pratama Citra Clinic, Deli Serdang Regency.

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