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The Effect of Kegel Exercises on the Healing of Perineal Wounds in Normal Postpartum Mothers at Morowali District Hospital

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ABSTRACT

During pregnancy and childbirth, women undergo significant physiological changes, including the loosening of the abdominal wall, vaginal canal, and pelvic floor muscles. Approximately 90% of women experience perineal tears during delivery, regardless of whether an episiotomy is performed. One approach to strengthening the pelvic floor muscles postpartum is through Kegel exercises. A quasi-experimental study design with quantitative random sampling was employed to compare the REEDA scale scores of the intervention group and the control group. The data were analyzed using the Mann-Whitney U test. The findings revealed that the intervention group, which performed Kegel exercises, had significantly lower REEDA scores than the control group, indicating faster recovery of perineal lesions in postpartum mothers at Morowali Regional Hospital in 2024 ($p = 0.001$, Sig. (2-tailed) < 0.05). It is recommended that postpartum mothers regularly engage in Kegel exercises to promote the healing of perineal tears.

Keywords: kegel exercises, perineal wound healing, postpartum

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BACKGROUND

Childbirth often results in maternal injuries due to the physical exertion involved (Ariestanti & Sulistyowati, 2022). It is estimated that approximately 70% of women experience perineal injuries during delivery (Aprillia Lestari, 2024). These injuries occur primarily due to the inability of the pelvic muscles and soft tissues to adequately support the infant during the labor process (Sutanto & Fitriana, 2015). "Perineal wounds are often caused by the midline of the perineum and can spread widely due to various factors, including uncontrolled premature labor, large babies, shoulder dystocia, extension of episiotomy, and the lowest part of the fetus being born too quickly" (Syadza et al., 2024). Perineal wounds take 6-7 days to heal, depending on the circumstances (Zuhana & Prafitri, 2022). Many factors, including the quality of the mother giving birth, her nutritional condition, the care she receives, and the condition of her injury, influence this (Syadza et al., 2024). The woman experienced pain, discomfort, anxiety when moving, and difficulty bathing due to her perineal lesions (Husnul Khatimah, 2022).

According to data from the World Health Organization (WHO), "perineal tears occur spontaneously or as a result of episiotomy in about 90% of normal delivery cases". Perineal tears occur in about 2.7 million cases worldwide in women who give birth. If proper care and attention are not given, this number will increase to 6.3 million by 2024. The prevalence of perineal tears is a significant social problem in Asian countries (Ulandari et al., 2024). With 230 cases of infection, Indonesia is in third place in the country with the highest maternal mortality rate (Kemenkes RI, 2021). (Novelia et al., 2023). According to his research, 24% of mothers who give birth in the age range of 25-30 years and 62% of women who give birth in the age range of 32-39 years experience perineal lesions during childbirth.

The maternal mortality rate in Central Sulawesi Province increased from 59 per 100,000 live births in 2019 to 62 per 100,000 live births in 2020, according to data from the 2020 Indonesian Health Profile. The highest numbers of maternal deaths were reported in Banggai Kepulauan Regency (7 cases) and Morowali Regency (11 cases) (Dinkes Sulawesi Tengah, 2022). According to Rohmin's research, up to 11% of maternal deaths in Indonesia after childbirth are caused by infections caused by improper care of perineal tears. Perineal trauma affects around 85% of women who give birth normally, although the infection rate after episiotomy and perineal tears is less than 1% (Rohmin et al., 2015). The result of delayed wound healing is infection; perineal moisture facilitates the growth of germs that cause perineal infections. Discomfort during urination, discharge of pus, and ulcers are common symptoms of an irritated bladder or birth canal due to infection originating from the perineum. The mother will experience uncomfortable symptoms due to this disease, such as discomfort, reduced movement, and anxiety during urination and defecation. Refusing to immediately address the problem can result in postpartum maternal death, given the fragile physical condition of postpartum women (Suci Mega Sari, 2020). Postpartum women are more likely to experience infections such as vaginal odor, postpartum infection, sepsis, and lower abdominal discomfort (Hayati, 2020). The entry of anaerobic streptococcus bacteria specific to the birth canal affects perineal wound infections. Postpartum infections can be caused by a weakened immune system, inadequate postpartum care, poor hygiene, fatigue, and inadequate nutritional intake from the mother (Ariestanti & Sulistyowati, 2022).

Non-pharmacological methods to prevent perineal wound infections include getting enough sleep, washing hands regularly, moving, doing Kegel exercises, applying warm compresses, boiling betel leaves, and consuming foods that are high in protein and nutrition (Zuhana & Prafitri, 2022). Kegel exercises target the pubococcygeal muscles, a group of muscles that help maintain the position of organs in the pelvic area (Novelia et al., 2023). Kegel exercises promote muscle contraction and relaxation, which alleviate perineal pain by enhancing local circulation and reducing swelling. Studies demonstrate that mothers who

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engage in Kegel exercises benefit in various ways, most notably in the recovery of perineal wounds following episiotomies. Infection from wounds on the mother's body may be less likely if the wound heals faster. These benefits lead us to the conclusion that postpartum mothers should make Kegel exercises a routine part of their postpartum practice. The role of midwives is very important in increasing this activity. When mothers undergo prenatal check-ups, midwives can teach Kegel exercises to help them realize how important these exercises are for them postpartum, especially in terms of pain relief and wound healing .

Research has shown that Kegel exercises influence the healing duration of wounds in healthy postpartum women. Perineal wounds typically heal within four days, but in some cases, they may take up to nine days (Antini, 2019). This is supported by findings from (Husnul Khatimah, 2022), which indicate “a significant impact of Kegel exercises on postpartum mothers’ perineal wound healing at BPM Nunung Nurhikmah, Bandung (p-value 0.000)”.

A study by (Metasari et all, 2023) “Research shows that postpartum mothers who do Kegel exercises feel accelerated healing of episiotomy wounds; therefore, postpartum mothers are advised to use Kegel exercises to help regenerate tissue damaged by episiotomy” The benefits of Kegel exercises include increased blood circulation in the perineum, thereby accelerating wound healing (Nova, 2023). By specifically targeting the pubococcygeal (PC) muscle, Kegel exercises help speed up the recovery of perineal injuries (Metasari et all, 2023).

Morowali Regional General Hospital conducted a preliminary survey in January 2024, and from the survey data was obtained that in 2024 there were 123 deliveries. In addition, based on interviews with midwives in the delivery room, around 70% of deliveries experienced tears perineum, either due to episiotomy or tears due to the labor process, and no non-pharmacological measures have been taken at the research location. Although Kegel exercises are not commonly performed for postpartum recovery, by looking at the results and benefits for pregnant women, researchers are interested in further researching “The Effect of Kegel Exercises on Perineal Wound Healing in Normal Postpartum Mothers at Morowali District Hospital”.

METHODS

This study used a quasi-experimental design with a pretest-posttest and a control group. The independent variable in this study was the application of Kegel exercises, while the dependent variable was perineal wound healing. This study used the REEDA scale and a standardized exercise protocol as measurement tools. The study population was all postpartum mothers at Morowali Regional Hospital who met the inclusion criteria, with a sample size of 68 postpartum mothers. This study also underwent ethical review and data were analyzed using the Mann-Whitney U test.

RESULTS

Respondent Characteristics

The research findings are displayed in Table 3 and include the age and maternal parity of the postpartum mother respondents:

Table 3. Characteristics of Intervention and Control Group Respondents

Characteristics	Intervention Group		Control Group	
	N	%	n	%
Age				
20-35 Years	29	85,3	29	85,3
> 35 Years	5	14,7	5	14,7
Parity				
1	12	35,3	7	20,6
2-3	20	58,8	25	73,5

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Characteristics	Intervention Group		Control Group	
	N	%	n	%
> 3	2	5,9	2	5,9
Total	**34**	**100**	**34**	**100**

Based on table 3, "The characteristics of the respondents, totaling 34 individuals, reveal that the majority, 29 respondents (85.3%), belonged to the age group of 20 to 35 years, which constituted the largest proportion in the intervention group. In terms of parity, the majority of respondents (58.8% or 20 individuals) had 2-3 children. Similarly, in the control group, 29 out of 34 respondents (85.3%) were also within the 20 to 35 age range. The largest parity category in the control group included respondents with 2-3 children, totaling 25 individuals".

Perineal Wound Healing

Table 4 displays research findings for perineal wound healing variables, which were evaluated on days 1 and 3 and measured using the REEDA scale:

Table 4. Description of REEDA Scores in the Intervention and Control Groups on the First and Third Day

Perineal Wound Healing (Day)	Kegel Exercise			
	Performed		Not Performed	
	N	%	N	%
1				
Poor	7	20.6	6	17.6
Bad	27	79.4	28	82.4
3				
Good	15	44.1	5	14.7
Poor	19	55.9	18	52.9
Bad	0	0	11	32.4
Total	34	100	34	100

Table 4 demonstrates the intervention provided to the institution, where Kegel exercises were administered on the first day of perineal wound recovery, the majority were in the bad wound category, namely 27 respondents (79.4%), on the third day the majority were in the good wound category, namely 15 respondents (44, 1%). "Meanwhile, in the control group who were not given Kegel exercises, the majority were in the bad wound category, namely 28 respondents (82.4%), on the third day the majority were in the bad wound category, namely 18 respondents (52.9%)".

Bivariate Analysis

A bivariate analysis was conducted using cross-tabulation to examine the relationship between the independent variables (age and parity) and the dependent variable (perineal wound healing).

Tabel 5. Maternal age by perineal wound healing in the experimental group

No	Age	Perineal Wound Healing				Total		p-value
		Healed		Not Yet Healed				
		N	%	N	%	N	%	
1	20–35 Years	13	86.7	16	84.2	29	85,3	1,000
2	> 35 Years	2	13.3	3	15.8	5	14,7	
	Total	15	100	19	100	34	100	

Table 5 reveals that, "out of 34 postpartum mothers who participated in the survey at the Morowali Regional Clinic, 29 were between the ages of 20 and 35. The majority of respondents, accounting for 13 individuals (86.7%), had their perineal wounds classified as healed, with a p-value of 1.000". This finding indicates that, within the experimental group, there is no significant correlation between age and the healing process of perineal wounds.

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Maternal age at perineal wound healing in the control group

Table 6. Maternal age by healing of perineal wounds in the control group

No	Age	Perineal Wound Healing				Total		p-value
		Healed		Not yet				
		N	%	N	%	N	%	
1	20-35 Years	5	100	24	82,8	29	85,3	1,000
2	> 35 Years	0	0	5	17,2	5	14,7	
Total		**15**	**100**	**19**	**100**	**34**	**100**	

Based on table 6, it is known that "of the 34 postpartum mother respondents at Morowali Regional Hospital, there were 29 postpartum mothers with an age range of 20-35 years, the majority of perineal wound healing was in the unhealed category, 24 (82.8%) respondents with a value of p -value 1,000. "This means that there is no significant relationship between age and perineal wound healing in the control group."

Maternal parity with perineal wound healing in the experimental group

Table 7. Maternal Parity and Perineal Wound Healing in the Intervenci Group

No	Parity	Perineal Wound Healing				Total		p-value
		Healed		Not Yet Healed				
		N	%	N	%	N	%	
1	Parity 1	7	46,7	5	26,3	12	35,3	0.430
2	Parity 2–3	7	46,7	13	68,4	20	58,8	
3	Parity >3	1	6,7	1	5,3	2	5,9	
Total		**34**	**100**	–	–	**34**	**100**	

Based on table 7, it is known that "of the 34 post partum mother respondents at Morowali Regional Hospital, there were 20 mothers *postpartum* who had a parity range of 2-3 children, the majority of perineal wound healing was in the unhealed category, 13 (68.4%) respondents with a p-value of 0.430. "This means that there is no significant relationship between parity and perineal wound healing in the experimental group."

Maternal parity with perineal wound healing in the control group

Table 8. Maternal Parity and Perineal Wound Healing in the Control Group

No	Parity	Perineal Wound Healing				Total		p-value
		Healed		Not Yet Healed				
		N	%	N	%	N	%	
1	Parity 1	1	20	6	20.7	**7**	20,6	0.344
2	Parity 2–3	3	60	22	75.9	25	73,5	
3	Parity >3	1	20	1	3.4	2	5,9	
Total		**34**	**100**	–	–	**34**	**100**	

Based on table 8, it is known that "of the 34 post partum mother respondents at Morowali Regional Hospital, there were 25 mothers *postpartum* who had a parity range of 2-3 children, most of the perineal wound healing was in the unhealed category, 22 (75.9%) respondents with a p-value of 0.344. "This means that there is no significant relationship between parity and perineal wound healing in the control group."

Uji Mann Whitney

Table 9. Differences in REEDA Scale Between the Intervention Group and the Control Group

Healing of Perineal Wounds			
Group	**p-value**	**Mean Rank**	**Mean Difference**
Intervention	0.001	23	22
Control	—	45	—

Based on table 7 above, "it can be concluded that there is an effect of Kegel exercises in the intervention group on the length of healing of perineal wounds and there is a difference

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in the average length of healing of perineal wounds in the intervention group 23 and the control group 45 with an average difference of 22 and a p value of 0.001 . Based on the data above, it can be concluded that Kegel exercises can speed up the healing of perineal wounds during childbirth, because there is a significant difference in the average value between the intervention group and the control group, in other words there is an influence of Kegel exercises on the healing of perineal wounds in mothers. *postpartum*."

DISCUSSION

Post Partum Maternal Age with Perineal Wound Healing in the Intervention Group and Control Group

Age has a significant influence on the reproductive process; 20 to 35 years is the best age range for pregnancy and giving birth. Teen mothers are more likely to fall ill or die during pregnancy and childbirth than women in their 20s, especially in places where access to health services is limited. This age range refers to patients whose labor lasts longer than expected (Husnul Khatimah, 2022).

The fertile age group for women is between 20 and 35 years. To be better prepared to face pregnancy and childbirth, women of reproductive age have learned to handle emotional challenges in a calm and controlled manner (Prawirohardjo, 2017). Reproductive organs are in peak functioning condition between the ages of 20 and 35, which means they are less likely to experience difficulties during pregnancy and childbirth. In addition, the strength of the abdominal and perineal muscles function well, which means that prolonged or obstructed labor rarely requires intervention. In this case, the risk of perineal rupture is greatly reduced (Manuaba, 2014).

One thing that can affect how quickly a wound heals is age. Younger people recover from injuries more quickly than older people. This is because age-related variables have reduced the function of tissue integration in the skin of postpartum women who are no longer of reproductive age (Smeltzer & Susan, 2013). This research was supported by (Mardiana Tessa, Marsia, 2021) It is claimed that the rate of healing of episiotomy wounds is correlated with age.

An important factor influencing the duration of perineal wound healing is maternal age. This is related to the delayed wound healing process, which tends to be slower in older mothers. Specifically, women over the age of 35 experience a longer recovery period compared to those between the ages of 20 and 35. Delayed T cell inflammatory response to the wound site as a result of chemokine synthesis and macrophage phagocytosis is associated with delayed wound healing experienced by older mothers. Research findings show that mothers aged between 20 and 35 years are considered to heal wounds more (Sutanto & Fitriana, 2015).

According to (Rohmin et al., 2015) Maternal age and the length of time required for healing of postpartum maternal perineal wounds are significantly correlated. Mothers aged between 20 and 35 years are not susceptible to healing six times faster than Typical. One factor that influences wound healing is age. Wounds heal more quickly in younger people than in older people. This is because age-related variables have reduced the function of tissue integration in the skin of postpartum women who are no longer of reproductive age. Sampe (2014), "who claims that there is a relationship between aging and episiotomy wound healing, lends credence to this. Age and the length of time it takes for perineal wounds to heal are interrelated."

After giving birth, women under the age of 35 recover from injuries more quickly. This observation aligns with research demonstrating that wounds heal more rapidly in young postpartum women. This enhanced healing process is attributed to the regenerative system's ability to quickly replace damaged tissue with new tissue (Novelia et al., 2023)

Apart from that, mothers aged 20-35 years have better knowledge than respondents

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aged 40-59 years. This is the result of increased social involvement, increased reading time, and more initiative in obtaining information from social media, print media, and medical professionals. Besides that, after the facts found in the field, the ignorance of mothers aged 40-59 years was because they only focused on caring for their babies rather than caring for themselves and respondents thought they had had good experiences with previous children. Apart from that, Kegel exercises are a new science for society, so respondents are less interested and less confident in this new science, so the respondents' knowledge is lacking.

The ages of 20 to 35 are still considered a productive phase, according to researchers' assumptions, and a mother's knowledge will be influenced by her capacity to understand all types of information. As the respondents get older, they will become more mature and able to think and reason more strongly, which will enable them to assist postpartum mothers in doing Kegel exercises and deep breathing relaxation.

Parity of Post Partum Mothers with Perineal Wound Healing in the Intervention Group and Control Group.

According to (Prawirohardjo, 2017) "The number of children born to a woman, both living and dead, is known as parity. Parity affects how quickly perineal wounds heal. "Compared to mothers with parity < 2, mothers with parity ≥ 2 have a higher level of expertise in treating wounds caused by perineal sutures."

This study supports the findings of Desvita et al.'s study, which showed a substantial correlation between wound care and maternal parity. The safest parity in terms of maternal death is the second and third child (Devita, 2019). The number of children born is equal to parity. Past experiences are important when learning. The management of perineal lesions by multiparous mothers is influenced by their previous postpartum experiences. Multiparous mothers will be more adaptive to social roles and interactions and more realistic in their expectations of boundaries (Bobak et al., 2016).

Risk parities include parity one and high parity (more than three). The first problem is the mother's lack of knowledge and experience in pregnancy and childbirth care. This is in accordance with research conducted by claims that 128 respondents had a p-value of 0.044 for the chi-square analysis test, which shows a significant correlation between parity and the amount of time required for healing of perineal lesions.

Additionally, the research conducted by (Purba Yulianti, 2021), which identified "a significant correlation (ρ price = 0.016) between the number of young children and perineal care, aligns with the findings of this study, this correlation influences the rate of healing of perineal suture wounds and is more pronounced among multiparous mothers who possess comparable or greater levels of experience, knowledge, and expertise in this area".

According to (Asnie et al., 2021) "Parity and the length of time required for healing of postpartum maternal perineal wounds have a significant correlation. Women with high parity, who frequently become pregnant and give birth, can make it difficult for mothers to meet their nutritional needs and receive the nutrients they need, which can often hinder wound healing. Mothers with low parity will focus more on their diet during pregnancy and the postpartum phase to ensure that their needs are properly met and to aid the postpartum healing process".

According to (Cakwira et al., 2022) "Compared to primiparous women, multiparous women are less susceptible to the risk of perineal rupture. This makes sense because multiparous women understand the actions to take when pregnant and have positive birth experiences. Multiparous women can manage their perineum quite well. Unlike primiparous mothers who also take long-term stimulants that alter the perineum's ability to stretch, they can feel when pushing is successful and how to carry out the pushing method with the help of a nurse." (Ningsi & Agustina, 2024).

According to the results that have been carried out, this research is in line with theory because it was found that respondents with parity 2-3 had better knowledge than respondents

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with parity 1. This is possible because mothers with high parity often update the latest information. Respondents care about health information and think that Kegel exercises are an important thing to do, and many mothers think that Kegel exercises are important for maternal health.

Healing of postpartum mothers' perineal wounds on the first and third days in the intervention group at Morowali District Hospital.

Based on statistical results, it is known that on the first day of perineal wound healing in the intervention group who received Kegel exercises, 27 respondents (79.4%) were mostly in the bad wound category and on the third day, 15 respondents (44.1%) were mostly in the bad wound category. good injury category.

In the opinion of Proverawati and Widianti (2010), doing Kegel exercises every day has several benefits, one of which is accelerating the healing of vaginal wounds after giving birth. Mothers who give birth and experience perineal wounds require obstetric care. Apart from strengthening pelvic muscles, Kegel exercises can tighten stitches, speed healing, relieve hemorrhoids, and improve urination control, among other benefits. Midwives provide information, understanding and examples of how to do Kegel exercises from the time a mother is pregnant until the end of the postpartum period. Kegel exercises are quick and easy to do, only taking a few minutes each day.

According to the midwife, postpartum mothers who experience perineal wounds will receive intensive care during postpartum visits. Mothers are also advised to carry out early mobilization, and one way to help this is by encouraging Kegel exercises to be performed six to twenty-four hours after giving birth to speed up the wound healing process. Kegel exercises help speed up the healing of perineal wounds by contracting the pubococcygeal muscles which will then affect blood circulation, oxygenation circulation, and the growth of new tissue which will tighten the wound during the proliferation phase. “Apart from that, Kegel exercises can also strengthen the vaginal muscles which also play a role in the healing process of perineal wounds.” (Metasari et all, 2023).

Fitri's research results in 2019 are in line with this research. Research Findings: “The average healing time for wounds in the experimental group before Kegel exercises was 3 days, with the highest healing time being 14 days. According to research by (Antini, 2019), the three phases that make up the wound healing phase are the Inflammatory Phase (lasts 1–4 days), the Proliferation Phase (lasts 5–20 days), and the Maturation Phase (lasts 21 days to one month or even years). During the Inflammatory Phase, blood elements such as antibodies, plasma proteins, electrolytes, complement, and water penetrate the vascular space for 2–3 days, causing edema, warmth, redness, and pain when microcirculation is damaged.”

Healing of postpartum mothers' perineal wounds on the first and third days in the control group at Morowali District Hospital.

Based on statistical results, the majority of respondents in the control group who did not receive Kegel exercises on the first day of perineal wound healing were in the bad wound category (n=28; 82.4%), while the majority were in the poor wound category on the third day (n =18; 52.9%).

Postpartum mothers who do Kegel exercises and who do not have a clear healing process for their perineal lesions. This is because Kegel exercises involve muscle contraction and stretching movements (pucococcygeal muscles). “This muscle movement has the effect of improving blood and oxygen flow to the surrounding tissues, including the perineum, as well as the muscles themselves. Because smooth oxygen increases oxygenation, which increases the availability of oxygen and nutrients for wound healing, perineal wounds will heal more quickly.” (Maryunani, 2015)

Based on research results, Kegel exercises are believed to speed up wound healing. The researchers' conclusion was that only a small percentage of respondents who did not do Kegel

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exercises experienced rapid healing, namely 5 (14.7%) of the 34 participants. According to researchers, the results of the study show that mothers who do Kegel exercises can gain many benefits, especially in terms of faster healing of perineal wounds, which has the potential to reduce the risk of infection due to maternal wounds.

Differences in REEDA scores in the intervention group and the control group at the Morowali District Hospital

Table 7 illustrates the impact of the intervention organization's Kegel exercises on the duration of perineal lesion healing. The data reveal that, with a median difference of twenty-two and a p-value of 0.001, the average REEDA score for the intervention group was 23, compared to 45 for the control group. This indicates that the REEDA score for the intervention group was significantly lower than that of the control group.

Wounds on the perineum resulting from tearing or episiotomy during delivery of the fetus are known as perineal wounds. Perineal injuries, which can occur during vaginal delivery or instrumental delivery, are injuries to the urogenital diaphragm and levator ani muscles. Because it is not visible from the outside, this wound can weaken the pelvic floor and increase the possibility of genital prolapse (Cindy et al., 2024).

Within six to seven days, new tissue will grow to cover the perineal incision, signaling the start of the healing process. The results of this research are in line with the research of (Aprillia Lestari, 2024). The test results demonstrate a significant difference in the average recovery time between the control group and the group that performed Kegel exercises, with a p-value of 0.004 (Sig.2-tailed value < 0.05). This finding suggests that administering postpartum care in the form of Kegel exercises can accelerate the healing process of perineal wounds in mothers.

In accordance with the study, numerous factors influence wound healing, and given the individuality of each respondent, the recovery process varies for each person. The findings from the Kegel exercise intervention demonstrated that, when implemented effectively, these exercises can facilitate the healing of perineal wounds. This is attributable to the fact that, when performed correctly and regularly, pelvic floor exercises enhance physical capabilities by strengthening the pelvic floor muscles, particularly the pubococcygeal muscles. This, in turn, supports women in fortifying their vaginal and urinary tract muscles and accelerates the healing of perineal wounds.

Exercises known as Kegel exercises are designed to strengthen the pelvic muscles, identified by Dr. Arnold Kegel. The pelvic oxygeal muscles, which are attached to the pelvic bones like a swing and are involved in the movement of the uterus, bladder and intestines, are one of the pelvic muscles (Cindy et al., 2024). Kegel exercises are particularly beneficial for postpartum women and those with uncertain recovery methods for perineal lesions. These exercises involve the contraction and relaxation of the pelvic floor muscles, especially the pubococcygeal muscles. The contraction of these muscles leads to increased blood and oxygen flow, which supports the perineum and surrounding tissues. Enhanced oxygenation facilitates the delivery of essential nutrients and oxygen to the affected areas, thereby accelerating the healing process of perineal lesions (Fitria, Eka Yulia, Aprina, 2019).

Research conducted by (Antini, 2019) “examined the effect of Kegel exercises on the healing time of perineal wounds in healthy postpartum mothers”. “In the Kegel exercise group, the average perineal wound healed within six days, with the shortest healing time being five days and the longest being seven days”. Healing of perineal wounds with Kegel exercises takes an average of five to seven days, based on research results from Ridlayanti (2013). Research conducted by Dewi (2019) “to determine the effect of early mobilization on the speed of healing of perineal wounds of the 16 respondents, there were 10 respondents who experienced slower wound healing acceleration (>7) and only 6 respondents fell into the fast wound healing category”.

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The statistical analysis yielded a p-value of 0.028 ($p < \alpha = 0.05$), indicating a significant effect of Kegel exercises on the wound healing capabilities of postpartum mothers, as reported by (Fitria, Eka Yulia, Aprina, 2019), "The study found that wounds healed 1,133 points more rapidly in mothers who performed Kegel exercises compared to those who did not. Thus, it can be concluded that Kegel exercises are effective in accelerating the healing of perineal injuries" (Fitria, Eka Yulia, Aprina, 2019).

Kegel exercises promote muscle contraction and relaxation, contributing to the alleviation of perineal pain by enhancing local blood circulation and reducing edema. When initiated within 2 to 4 hours, or alternatively within 6 to 8 hours, of childbirth, these exercises facilitate the rapid healing of perineal lesions. Postpartum women who regularly engage in Kegel exercises experience notable improvements in the recovery of perineal lesions, thereby expediting the overall recovery process. Research indicates that mothers practicing Kegel exercises benefit in various ways, most significantly in accelerating the healing of perineal wounds resulting from episiotomies. Accelerated wound healing has the potential to reduce the risk of infection due to wounds on the mother's body. These benefits lead to the conclusion that postpartum mothers should make Kegel exercises a routine part of their postpartum practice. Therefore, the involvement of midwives is very important in improving this activity. When mothers undergo prenatal check-ups, midwives can teach them Kegel exercises to help them realize how important these exercises are for them postpartum, especially in terms of pain relief and wound healing.

Kegel exercises have been shown to speed wound healing, according to research findings. Research shows that a lack of knowledge about the benefits of Kegel exercises among mothers can lead to a lack of Kegel exercise behavior. The average respondent is a high school graduate with limited exposure to information about the benefits of Kegel exercises.

CONCLUSION

The research findings and the debates arising from examining the relationship between the independent and dependent variables indicate that the REEDA scores in the intervention group were lower than those in the control group. These findings suggest that postpartum mothers who performed Kegel exercises experienced a shorter recovery time for perineal wounds compared to those who did not engage in Kegel exercises. It is expected that postpartum care for mothers can integrate innovative strategies in pain management, comprehensive postpartum care, supportive care, and Kegel exercise therapy based on these findings. Kegel exercises represent a valuable non-pharmacological intervention to improve the quality of care provided to new mothers. Depending on the mother's condition and the status of the perineal wound, Kegel exercises should be initiated at least one day after childbirth. It is recommended that future researchers develop studies with a larger sample size and employ stronger research designs.

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