

Article

Effectiveness of Egg White Detoxe on Perineal Wound Healing in Post Labor Women

Article Info

Article history :

Received March 06, 2023
Revised July 25, 2023
Accepted August 08, 2023
Published September 30, 2023

Keywords :

Postpartum mothers, perineal wounds, egg white decoction

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Abstract. One of the ways perineal wounds can be cured is with good nutrition, especially those that are high in protein. The purpose of this study was to determine the effectiveness of boiled egg whites for perineal wound healing in postpartum mothers. This type of quantitative research uses a pre-experimental design with a one shot case study. The research was conducted at PMB Hj. Dewi Mulyati, S.ST in 2020-2021 with a population of postpartum women who experienced grade II perineal injuries and a sample of 15 people using an accidental sampling technique. The instrument uses an observation sheet and SOP for boiled egg whites. Univariate data analysis using the distribution of central tendency in the form of mean, median, and standard deviation and bivariate data analysis using sample t-test showed the average perineal wound healing time after administration of boiled egg white. The results of this study were faster than in general, namely the healing time for perineal sutures lasted 6-10 days and no more than 14 days. It is hoped that health workers can practice and teach this technique to mothers to accelerate the healing of perineal wounds and the results of this study can be an alternative innovation of natural treatment options.

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1. Introduction

Health is a human right and one of the elements of well-being that must be realized and fulfilled. In a country, health development is one of the priorities, as an effort to give birth to a generation of smart and quality people in the future. One of the centers of attention in developing the health of a nation to achieve this is maternal health [1-2].

Maternal health that needs attention is from pregnancy, childbirth to the puerperium. Maternal mortality after giving birth is still high. According to the World Health Organization (WHO) report, up to 2018, it was recorded that 10.7 million women had died due to childbirth. It is estimated that around 25-50% of maternal deaths after childbirth in poor countries are caused by health, childbirth and postpartum problems [3-5]

The Ministry of Health (Kemenkes) noted that the number of maternal deaths in Indonesia was 4,627 people in 2020. This number increased by 8.92% from the previous year of 4,197 people. Several factors cause maternal mortality in Indonesia, namely hypertension as much as 33.07%, obstetric bleeding 27.03%, non-obstetric complications 15.7%, other obstetric complications 12.04%, infections during pregnancy 6.06% and other causes 24.81%. As for the postpartum period, mothers who experience perineal injuries range from 25-55% [1][6-7].

By province, 745 mothers who died were in West Java. The proportion reaches 16.1% of the total maternal deaths in the country. The second highest number of maternal deaths was in East Java, namely 565 people. His position was followed by Central Java and Banten with maternal deaths of 530 and 242 respectively. Meanwhile, the number of maternal deaths in Majalengka Regency in 2020 was 16 cases consisting of 3 cases (18.7%) of pregnant women, 6 cases of childbirth (37.5%), and 7 cases of postpartum mothers (43.7%). % [8].

The researcher took the research location at the Independent Midwife Practice (PMB) Hj. DewiMulyati, S.ST Majalengka Regency. Based on the medical records of the Independent Midwife Practice Hj. DewiMulyati, S.ST, the number of deliveries in 2020 was recorded at 107 deliveries. The number of mothers who did not experience perineal injuries was 42 people (39.3%) and those who experienced perineal injuries were 65 people (60.7%), namely those who experienced grade 1 perineal injuries were 38 people (35.5%), perineal injuries 2 in 24 people (22.4%) and 3rd degree perineal injuries in 3 people (2.8%). Meanwhile, in 2021 there were 122 births. The number of mothers who did not experience perineal injuries was 42 people (34.4%) and those who experienced perineal injuries were 80 people (65.5%), namely, 34 people had grade 1 perineal injuries (27.9%), perineal injuries degree 2 39 people (32.0%) and 3rd degree perineal injuries in 7 people (5.7%). This shows that the incidence of perineal wounds at the Independent Midwife Practice Hj. DewiMulyati, S.ST in 2020-2021 experienced an increase of 4.8% from 60.7% in 2020 and to 65.5% in 2021. Meanwhile at the Independent Midwife Practice Hj. NunungMuslihatun, Lame Village, Lewimunding District, in 2020-2021 the incidence of perineal injuries has decreased from 70.6% to 52.5%.

The impact of perineal injuries on postpartum mothers is such as infection in stitches and can spread to the urinary tract or to the birth canal so that it can result in the emergence of complications of bladder infections and infections in the birth canal. Also other effects can occur bleeding, this is due to the opening of blood vessels because they do not close completely. Slow handling of complications can lead to maternal death postpartum considering the postpartum mother's condition is still weak [9-10].

Perineal injuries are caused by several factors, both from the mother, fetus, and birth attendants. Including maternal factors, namely precipitate labor that is not controlled and not assisted, the patient is unable to stop pushing, labor is completed in a hurry with excessive fundus pushing, edema and fragility of the perineum, vulvar varicosity which weakens the perineal tissue, enlargement of the episiotomy and narrow pubic arch with a narrow pelvic opening so that it presses the baby's head posteriorly. Meanwhile, fetal factors include a large baby, abnormal head position, breech birth,

difficult forceps extraction, shoulder dystocia and congenital anomalies, such as hydrocephalus [11-12].

One of the problems during the puerperium that causes many infections is perineal tears. Perineal tears occur in almost all first deliveries and not infrequently in subsequent deliveries [13-14]. Perineal tears can have an impact on perineal infection problems. In Indonesia, 10% of maternal deaths during the puerperium are caused by puerperal infections, some of which occur due to lack of wound care, bleeding due to tearing of the birth canal (42%), retained placenta and uterine atony, eclampsia (13%) and puerperal complications (11%). Puerperal infection is a morbidity and mortality of postpartum mothers [15-16]. The cause of delayed healing of perineum wounds can be caused by knowledge and cultural factors that have been inherent for a long time, often used as a benchmark during the postpartum period, such as abstinence from certain foods and more on the individuals themselves, including malnutrition and unsanitary environmental conditions [17].

In general there are 2 factors that influence perineal wound healing including internal factors and external factors. Internal factors include nutrition, personal hygiene, maternal condition, heredity, age, hemorrhage, hypovolemia, local factors of edema, nutritional deficits, oxygen deficits, over activity. While external factors include environment, tradition, knowledge, social, economic, handling of officers, handling of tissues and drugs [18].

Perineal wound care during the postpartum period is a behavior that should be carried out by a mother during the postpartum period where perineal wound care can prevent infection of the perineal wound. Theoretically, perineal wound care can be done by applying an ice pack to the perineal wound; give antiseptic fluids such as povidone iodine; and doing Kegel exercises, apart from that mothers need to increase their nutritional intake and get enough rest to speed up the perineal healing process [13][19]. Perineal infection in postpartum mothers can be prevented by treating the wound.

The right technique in wound care and the use of the right materials in wound care are important things to note, because it makes the wound difficult to heal or takes a long time to heal and allows infection [20]. Infection of the birth canal. In addition, bleeding can also occur due to the opening of blood vessels that do not close completely. Slow handling of complications can lead to postpartum maternal death considering the postpartum mother's condition is still weak [21-22]. Another action that can speed up the healing of perineal wounds is to consume foods that are high in protein.

Perineal injuries are injuries to the urogenital diaphragm and levatorani muscles, which occur during normal labor or delivery with a device. They can occur without injury to the perineal skin or to the vagina so that they are not visible from the outside, so that they can weaken the pelvic floor and cause genital prolapse. Most perineal wounds if repaired with care usually heal fairly quickly with no long-term morbidity. Immediately after delivery the perineal area is in optimal condition to allow for effective healing. Most women who give birth experience tears in the vagina and perineum which cause bleeding in varying amounts. Therefore, it is necessary to suture the perineum. The healing time for perineal stitches will last 6-10 days and no more than 14 days [23].

Healing of the perineal wound is stated to be good, if the perineal dry wound closes and there are no signs of infection (red, swollen, hot, painful, functionoleosa) [24]. While the duration of perineal wound healing consists of fast, normal and long. Fast (if the perineal wound heals within 1-6 days) good wound closure, granulation tissue is not visible, scar tissue formation is minimal. Normal (if the perineal wound heals within 7-14 days) good wound closure, no granulation tissue visible, minimal scar tissue formation. For a long time (if the perineal wound heals within \geq 14 days) the edges of the wound are not pressed together, the repair process is lacking, sometimes accompanied by pus and healing time is longer [9].

Treatment of grade 2 perineal wounds can be provided with pharmacological therapy and non-pharmacological therapy. Pharmacological therapy is by administering antibiotics and antiseptic drugs (povidone iodine) to treat perineal wounds, however these drugs and materials have side effects such as allergies, inhibiting the production of collagen which functions for wound healing. Meanwhile,

non-pharmacological therapies that can be given to accelerate wound healing so that infection does not occur include using betel leaf decoction, binahong and can also consume boiled egg whites [24].

Various ingredients in an egg have been tested from various sources that egg whites are better for focusing on helping the wound healing process because they contain albumin and there is no fat content found in egg whites like egg yolks. As well as the ease of obtaining egg white at an affordable price and can be obtained by all levels of society [25-26].

The results of a preliminary study at the Independent Midwife Practice (PMB) Hj. DewiMulyati, S.ST Majalengka Regency, of 10 postpartum mothers, 6 people had degree 2 perineal injuries and 4 people did not have perineum injuries. Of the 10 mothers, 6 experienced healing of perineal wounds degree 2 for more than 2 weeks because the perineum experienced swelling. Mothers experienced wound healing for more than 2 weeks and experienced swelling caused by mothers not taking proper care, such as using antiseptic drugs irregularly. Inadequate personal hygiene, not in accordance with the advice of midwives and also no mother has tried using traditional medicine such as consuming boiled egg whites.

2. Method

This type of research uses pre-experimental design with one shot case study. The population in this study were postpartum mothers who experienced second degree perineal injuries at PMB Hj. DewiMulyati, S.ST in March-June 2022 and a sample of 15 people used an accidental sampling technique. The instrument uses an observation sheet and SOP for boiled egg whites. Univariate data analysis used the central tendency distribution in the form of mean, median, and standard deviation and bivariate data analysis used sample t-test.

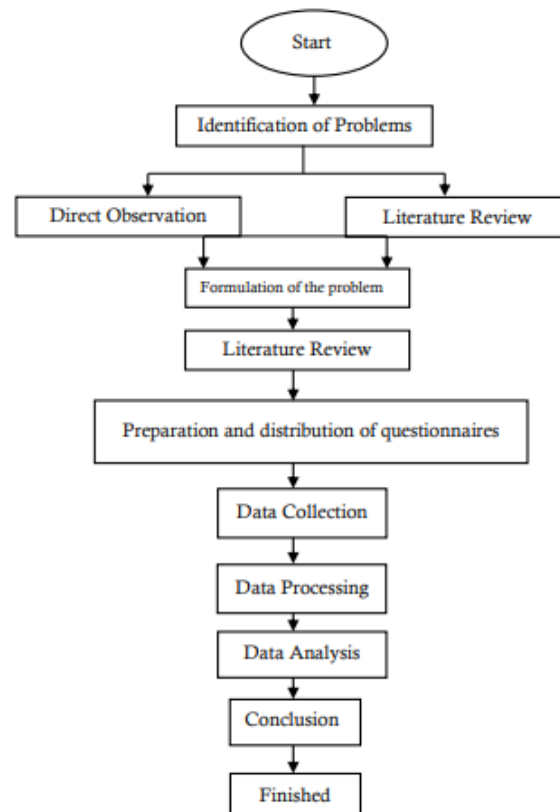


Figure 1. Flowchart of research

3. Results and Discussion

3.1. Description of Perineal Wound Healing in Postpartum Mothers After Consuming Egg White Decoction

Based on table 1, it shows that the average perineal wound healing time after the use of consuming boiled egg whites is 5.80 days with a median of 5.00 days and a standard deviation value of 1.506. The fastest is 3 days and the longest is 9 days. Based on the 95% CI value, it is believed that 95% of the time for perineal wound healing in postpartum mothers at the Independent Midwife Practice Hj. DewiMulyati, SST after administration of boiled egg whites ranged from 4.73 to 6.87.

Table 1. Distribution of central tendency of perineal wound healing in postpartum mothers after consuming egg white decoction

Observed Variables	Mean Median	S.D	Minimum- Maximum	95% CI
Perineal Wound Healing in Postpartum Mothers	5.80 5.00	1.935	3-9	4.73-6.87

Based on the results of the study showed that the average perineal wound healing time after consuming boiled egg whites was 5.80 days and it was believed that 95% of the perineal wound healing time in postpartum mothers at PMB Hj. Dewi Mulyati, SST after consuming boiled egg whites ranged from 4.73 to 6.87. The results of this study were faster than in general, namely the healing time for perineal stitches would last 6-10 days and not more than 14 days. The results of observations of the use of boiled egg whites by postpartum mothers who experience perineal injuries every morning, afternoon and evening can speed up the wound healing process easy to get and affordable price because it contains albumin and protein which can accelerate the healing of damaged tissue.

Based on the results of the study, it was also found that several respondents who had healed their wounds dropped out. This was because the respondents did not pay attention to the instructions or advice of the officers to consume boiled egg whites in the morning, afternoon and evening with the reason that the respondents were tired of consuming boiled egg whites 3x a day. Apart from not paying enough attention to advice and feeling bored, it was also because the mother felt her condition had improved so that she no longer wanted to eat boiled eggs.

The results of this study are no different from the results of previous similar studies, namely those conducted by [27] at the Karanganyar Tasikmalaya Health Center showing that the average perineal wound healing after giving boiled egg whites is 5 days. However, it is slower than the results of research conducted by at the SukakaryaSukabumi Health Center showing that the average perineal wound healing for postpartum women after consuming egg white is 3.5 days, also the results of research conducted by [28] at PMB Midwife Ika Nurlaela Indramayu showed that on average perineal wounds healed after being given boiled egg whites on day 3.7.

The results of this study or the results of previous studies are still within normal limits and tend to be faster without treatment or in general. According to the theory, the healing of the perineal wound is stated to be good, if the perineal dry wound closes and there are no signs of infection (red, swollen, hot, painful, functionoleosa) [24]. While the duration of perineal wound healing consists of fast, normal and long. Fast (if the perineal wound heals within 1-6 days) good wound closure, granulation tissue is not visible, scar tissue formation is minimal. Normal (if the perineal wound heals within 7-14 days) good wound closure, no granulation tissue visible, minimal scar tissue formation. For a long time (if the perineal wound heals within \geq 14 days) the edges of the wound are not pressed together, the repair process is lacking, sometimes accompanied by pus and healing time is longer [9][29]

It is necessary to treat perineal wounds because perineal wounds can have several effects. The impact of the occurrence of perineal wounds in the mother includes infection in the suture wound, and it can spread to the urinary tract or to the birth canal so that it can result in the emergence of complications of bladder infections and infections in the birth canal. In addition, bleeding can also occur due to the opening of blood vessels that do not close completely. Slow handling of complications can lead to postpartum maternal death considering the postpartum mother's condition is still weak [9][30].

Perineal injuries are caused by several factors, both from the mother, fetus, and birth attendants. Including maternal factors, namely precipitate labor that is not controlled and not assisted, the patient is unable to stop pushing, labor is completed in a hurry with excessive fundus pushing, edema and fragility of the perineum, vulvar varicosity which weakens the perineal tissue, enlargement of the episiotomy and narrow pubic arch with a narrow pelvic opening so that it presses the baby's head posteriorly. Meanwhile, fetal factors include a large baby, abnormal head position, breech birth, difficult forceps extraction, shoulder dystocia and congenital anomalies, such as hydrocephalus [31].

One of the non-pharmacological efforts is to give boiled egg whites, this is because eggs are easy to obtain by members of society and are cheap. Consumption of boiled egg whites, including one of the solutions for postpartum mothers, is an idea obtained from the world, namely animal food, namely boiled eggs, eggs are a type of animal protein side dish that is cheap, easy to find, economical and one of the most nutrient-dense foods. The nutritional content of whole boiled eggs contains more than 90% calcium iron, one egg contains 6 grams of quality protein and essential amino acids. In this study, boiled egg whites were proven to heal perineal suture wounds in postpartum mothers or postnatal mothers because acceleration of perineal wound healing during the puerperium is highly desirable [27].

The average perineal wound healing time after administration of boiled egg white at PMB Hj. DewiMulyati, SST is 5.80. This means that giving boiled egg whites can speed up the healing time of perineal wounds, although there are some women who recover after the 7th day, therefore the efforts that need to be made by midwives are to provide counseling to postpartum mothers to carry out wound care how to consume boiled egg whites every day in the morning, afternoon and evening until the wound heals, for postpartum mothers to continue to consult with health workers during the perineal wound healing process and to get used to consuming boiled egg whites 3 times a day during the wound healing process.

3.2. Effectiveness of Egg White Decoction on Perineal Wound Healing in Postpartum Mothers

Based on the results of the normality test with Shapiro Wilk, because the data <50 shows that the sig (α) value is 0.128 or more than 0.05, thus the data is normally distributed. To further analyze the one sample t-test as follows.

Table 2. Data normality test results

	Shapiro-Wilk		
	Statistic	df	Sig.
Observation of wound healing perineum	0.908	15	0.128

Based on table 3, it shows that of the 15 respondents studied, the average perineal wound healing time after consuming boiled egg whites was 5.80 days with a standard deviation of 1.935. This means that the healing time for perineal wounds after consuming boiled egg whites is within normal limits and tends to be faster because normally the healing time for perineal stitches will last 7-14 days. Statistical test results with one sample t-test with $\alpha = 0.05$ obtained p value = 0.031 which means α

value < 0.05 , thus egg white decoction is effective for perineal wound healing in postpartum mothers at PMB Hj. DewiMulyati, SST. Majalengka Regency in 2022.

Table 3. Effectiveness of egg white decoction on perineal wound healing in postpartum mothers

Research variable	N	Mean	Std. Deviation	t	p value
Perineal Wound Healing in Postpartum Mothers	15	5.80	1.935	-2.402	0.031

Based on the results of the study, it showed that egg white was effective in healing perineal wounds in postpartum mothers at PMB Hj. DewiMulyati, SST. With the results of the study showing that the average perineal wound healing time after consuming boiled egg whites is 5.80 days and it is believed that 95% of the perineal wound healing time in postpartum mothers at PMB Hj. DewiMulyati, SST. after consuming boiled egg whites ranged from 4.73 to 6.87. There is a relationship because postpartum mothers can follow and do it routinely in the morning, afternoon and evening consuming boiled egg whites according to advice or recommendations so that they can speed up the healing of perineal wounds. Thus, boiled egg whites are very effective in healing perineal wounds in postpartum mothers which are characterized by dry perineal wounds, closed perineum and no signs of infection (redness, swelling, heat, pain, functional oleosa).

The results of this study are in line with the results of research conducted by [32] regarding the effect of giving egg whites to healing perineal wounds in postpartum women in Depok, West Java, which shows that there is an effect of giving egg whites to healing perineal wounds, namely healing in less than 6 days and there is delayed healing of perineal wounds that are not given egg white, that is, they heal for more than 6 days. Also the results of research conducted by [33] regarding the effect of giving egg whites on the healing time of perineal wounds at WaluyoJati Hospital, Probolinggo Regency, showed that the test results obtained a significance value of $0.001 < 0.05$ so that the research hypothesis was accepted, which means that there is significant effect between egg white administration and perineal wound healing time in postpartum mothers. Likewise, the results of a study by [28] concerning giving boiled egg whites with perineal wound healing in post partum mothers at PMB Midwife IkaNurlaelaIndramayu showed that there was an effect of giving boiled egg whites with perineal wound healing in post partum mothers with $\alpha = 0.000$.

The results of this study are in line with research conducted by [34] which revealed that there were differences in the healing of perineal wounds in postpartum women who were given boiled egg whites with a p value = 0.000. Another study conducted by [33] also revealed that there was a relationship between the consumption of boiled egg whites and the process of healing perineal wounds in postpartum mothers with a value of $p = 0.002$.

Protein or egg white is the main ingredient in the formation of damaged tissue cells and is referred to as a building element or substance [35-36], contains high-quality protein because there is a complete arrangement of essential amino acids so that eggs are used as a benchmark in determining the protein quality of various foodstuffs [37]. The results of this study are in line with the theory that treatment for perineal wounds can be carried out by pharmacological and non-pharmacological means. Pharmacologically, namely by giving antiseptic drugs. Antiseptic or antibiotic treatment for perineal wound care currently tends to be avoided. Some antibiotics should be avoided during lactation, because the amounts are significant and the risks involved. This is the reason midwives advise postpartum mothers to use boiled egg whites as an alternative method [38].

The results of this study are in line with the theory that the content in an egg has been tested from various sources that egg whites are better for focusing on helping the wound healing process because they contain albumin and there is no fat content found in egg whites like egg yolks. As well as the ease

of obtaining egg white at an affordable price and can be obtained by all levels of society [39]. Based on the results of this study, the efforts that can be made by midwives are to provide alternative non-pharmacological treatments to postpartum mothers who experience perineal injuries with the influence of giving boiled egg whites and providing counseling or counseling to mothers about how to consume them. For postpartum mothers who experience perineal injuries, they can treat their wounds in an alternative way, namely by consuming boiled egg whites and to be effective, this must be done every morning, afternoon and evening for one week.

4. Conclusion

Based on the results of research and discussion regarding the effectiveness of boiled egg whites on healing perineal wounds in postpartum mothers at PMB Hj. DewiMulyati, SST. Majalengka Regency, it can be concluded that the healing time of the perineal wound after giving boiled egg whites at PMB Hj. DewiMulyati, SST. Majalengka Regency in 2022 is faster and boiled egg whites are effective in healing perineal wounds in postpartum mothers at PMB Hj. DewiMulyati, SST. Majalengka Regency in 2022.

This study also has limitations including the absence of a comparison group so that the results of the study can cause bias, for that future researchers can develop this research with a two group pretest posttest design so that the results are more meaningful and know the effectiveness of boiled egg whites between those who consume and who don't consume it. To ensure that mothers consume eggs, supervision from researchers is needed according to the boiled egg consumption schedule.

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