

The Effect of Egg White Consumption on the Healing Process of Perineum Wounds

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ABSTRACT

Perineum wounds are wounds caused by damaged tissue located next to the pelvic diaphragm due to the fetal urgency process or due to the action during the delivery process (episiotomy) during the delivery process. The slow healing process of perineum wounds can increase the risk of infection, so it is necessary to intake nutrients, especially proteins that support the growth of new cells in the perineum wound. This research is based on the high incidence of perineum need with delay in the healing process of perineum wounds in the Kediri Regency (60%) so that there is a solution needed to solve the problem. The purpose of this study is to find out the effect of egg white consumption on the healing process of perineum wounds in postpartum mothers in the working area of Tiron Health Center – Kediri in 2020. The design used in this study is a Quasi Experiment with Nonequivalent Control Group design. The sampling technique used in this study is purposive sampling. A large sample of 32 people, 16 as a group was treated and 16 as a control group. The analysis used is bivariate analysis with Mann Whitney statistical test. Statistical test results showed that the value of $p \text{ value } (0,000) < \alpha (0.05)$, then H_0 was rejected and H_1 was accepted which means that there is an effect of egg white consumption on the process of welcoming perineum wounds on postpartum mothers in the working area of Tiron Health Center – Kediri in 2020. Mothers postpartum with perineum wounds are expected to consume egg whites considering the benefits contained in it can speed up the healing process of perineum wounds.

Keywords: Egg White, Perineum Wound, Postpartum Mother, Protein

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BACKGROUND

The postpartum period begins after the partus is finished, and lasts after the next 6 weeks accompanied by the recovery of organs related to the womb that undergo changes such as the need for perineum and so on during childbirth.[1] Perineum wound is defined as a rupture or episiotomy during childbirth.[2] Rupture in perineum naturally during spontaneous birth rupture perineum occur in almost all first childbirths and are not uncommon in subsequent childbirths[3]

According to RISKESDAS 2018, it shows that maternal mortality rate (MMR) in Indonesia reaches 305 per 100,000 live births. [4] Despite the decline, the figure is far from satisfactory. Indonesia is still the country with the highest MMR in Southeast Asia. These mortalities were due to bleeding 30%, eclampsia 25%, post-copy infection 12%, abortus 5%, postpartum complications 16%, and according to East Java Provincial Health Department data in 2017 54 percent of maternal mortality in East Java occurred during postpartum period or 0 - 42 days after childbirth. There are 25 percent occurs when the mother is pregnant and 21 percent during childbirth.[5] This is still the height of MMR during the postpartum period due to complications and infections.

Based on a preliminary survey conducted in the period June-July 2019 in the working area of Tiron Health Center – Kediri, there were 55 maternity mothers, a total of 13 (24%) maternity mothers with perineum wounds degree: one and 42 (76%) maternity mothers who have second-degree perineum wounds. From observation data, there are still delays in healing perineum wounds in the working area of Tiron Health Center – Kediri. From 10 mothers, there are 6 mothers who experience delays in healing perineum wounds > 7 days.

The main problem that must be faced is the healing of *perineum wounds*. Wound healing is a process of replacing dead/damaged tissue with new and healthy tissue by the body with a path of *regeneration*. ‘**Tarak**’ culture that we still often encounter in society, and poor personal hygiene, are some of the most common contributing factors, thus affecting the late healing of perineum wounds [1]

Food ‘**Tarak**’ is a prohibition on consuming certain types of food because there is a danger to whoever violates it. In the threat of this danger there is a magical impression, namely the *power of superpowers* that smell of mysticism. In reality these penalties don't always happen. Often these social values do not correspond to the nutritional value of food Moderate postpartum is required high quality nutrients with enough calories, protein, liquids and vitamins. Nutritional factors will affect the healing process of birth road wounds. nutritional status will affect wound healing. In some patients, decreased levels of protein will affect wound healing [6]

The tradition of high-protein foods in society related to postpartum mothers can result in the body lacking some of the necessary substances to regenerate damaged body cells. When *deficiency of certain substances* such as proteins can result in reduced wound *strength, increased dehiscence of the wound*, resulting in increased susceptibility to infection and poor-quality scarring. *Certain nutritional* deficiencies can have an effect on healing. People avoid egg consumption because there is still a belief if consuming eggs then *the wound on the perineum* will itch and wet, in addition to concerns with its high cholesterol content. The high cholesterol content is concentrated only in the yolk, whereas in egg whites free of cholesterol even many contain protein needed by postpartum mothers with perineum wounds so that it is safe to consume.[7]

High protein content in egg whites acts as the raw material for the formation of fibrin and collagen proteins, stimulating angiogenesis resulting in a rapid increase in the

strength of wound strain and wound closure. Compared to other protein types protein in egg whites is easier to absorb and digest by the body, and the content every 100 grams is higher than other types of protein, such as in chickpeas and beans every 100 grams only 1-7 gr. In addition, eggs are also easier to reach by the public in comparison with other sources of animal protein such as beef, and chicken meat [8] So one solution for post partum mothers is gagsaan obtained by sari dunia 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.[9]

From the above phenomenon, researchers are interested to conduct research on the Effect of Egg White Consumption on the Healing Process of Perineum Wounds in the working area of Tiron Health Center – Kediri. The purpose of this study is to know the effect of egg white consumption on the healing process of perineum wounds in mother's post-partum in the working area of Tiron Health Center – Kediri in 2020

METHODS

Research Design

The design of this study is Experimental Quasi research with a cohort study approach. Based on the absence of treatment, it belongs to non-equivalent type control group design. Research objectives include comparisons. Based on the data source, it belongs to the primary data type. Analysis of data used is univariate and bivariate analysis.

Research's Place and Time

The place of this research is in the Working Area of Tiron Health Center Kediri. The study was conducted in June-July 2020.

Population and Sample

The population is all postpartum mothers with wounds in the working area of Tiron Health Center – Kediri in 2020. In this study the sample used was part of the mother post-partum with perineum wounds in the working area of Tiron Health Center – Kediri in 2020. The sample size for the experiment group was 16 and for the control group also 16. Sampling technique is purposive sampling.[10]

Research Variables

- 1). Independent variable is the consumption of egg whites.
- 2). Dependent Variable is the healing of the perineum wound.

Research Instruments

Observation sheets

Technique of Data Analysis

The bivariate test used in this study was to measure comparisons in treatment and control groups using Mann Whitney's statistical test.

Description of Passing the Ethics Test

This research has also received approval from the health research ethics commission of Institute of Health Science STRADA Indonesia with the number 2108/KEPK/VI/2020.

RESULTS

1. General Data

The results of research on the effect of egg white consumption on the healing process of perineum wounds in post-partum mothers in the working area of Tiron Health Center – Kediri in 2020 are presented in the form of frequency distribution table as follows: Education of respondents of the treatment group almost a portion of respondents (37.5%) his last education was higher, while from the control group most

(68.75%) the respondent's last primary education. The age of the respondents of the treatment group was almost entirely (93.75%) 20-35 years old while from the control group (93.75%) also aged 20-35 years chronic disease history of the treated group as well as the control group based on the history of chronic disease is all respondents (100%) has no chronic diseases. The cultural treatment group of most respondents (56.25%) there is a tarak culture whereas of most control groups (75%) there is also a 'Tarak' culture. The distribution can be seen in Table 1 below:

Table1. frequency distribution of treatment and control group respondents

No	Characteristics	Category	Treatment		Control	
			<i>f</i>	%	<i>f</i>	%
1	Education	Elementary	5	31,25	10	68,75
		Middle	5	31,25	5	31,25
		High	6	37,5	1	6,25
		Total		100	16	100
2	Age	< 20 years old	1	6,25	1	1
		30-35 years old	15	93,75	15	93,75
		>35 years old	0	0	0	0
		Total	16	100	16	100
3	History of Disease	Digestion	0	0	0	0
		Diabetes	0	0	0	0
		No chronic disease	16	100	16	100
		Total	16	100	16	100
4	'Tarak'	Yes	9	56,25	12	75
		No	7	43,75	4	25
		Total	16	100	16	100

Analysis of The Level of Perineum Wound Healing Process in Post Partum mothers who consume Egg White in the working area of Tiron Health Center – Kediri in 2020.

Table 2. Effect of egg white consumption on the healing process of perineum wounds on mothers post partum in the working area of Tiron Health Center – Kediri in 2020

No	Recovery Rate	Treatment		Control	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1.	Recovering Slowly	6	37,50	11	68,75
2.	Recovering Normally	10	62,50	5	31,25
	Total	16	100	16	100
p value = 0,000		α = 0,05		Z = -5,568	

Source: Primary research data in 2020

Based on the table above, it can be interpreted that the difference in the rate of healing process of perineum wounds between post partum mothers who consume egg whites and post partum mothers who do not consume egg whites in the Tiron Health Center area of Tiron District kediri district experienced a normal recovery of

partly as large as 68.50% egg whites and who did not consume normal cured egg whites by almost half of the 31.25%.

Mann Whitney test results showed p value = 0.000 or less than $\alpha = 0.05$ with Z-score -5,568, then H_0 was rejected and H_1 was accepted which means that there is an influence of Egg White Consumption on the Perineum Wound Healing Process on post-Partum mothers in the working area of Tiron Health Center – Kediri in 2020.

DISCUSSION

Based on cross tabulation the effect of egg white consumption on the healing process of perineum wounds in the mother post partum in the working area of Tiron Health Center – Kediri in 2020 can be interpreted that the difference in the rate of healing process of perineum wounds between mothers post partum that consumes egg whites with post partum mothers who do not consume egg whites in the working area in the Tiron Health Center area of Tiron District Kediri district experienced a normal recovery of partly as large as 68.50% egg whites and who did not consume normal cured egg whites by almost half of the 31.25%.

Mann Whitney's test results showed a p value of =0.000 or less than $\alpha = 0.05$ with a Z-score of -5,568, then H_0 was rejected and H_1 was accepted which meant that there was an influence of Egg White Consumption on the Perineum Wound Healing Process on post-partum mothers in the working area of Tiron Health Center – Kediri in 2020. This is also in line with research conducted in Central Java found that the majority of respondents who consumed boiled egg whites recovered normally with an average time of 6 days reaching 55.6%.[11] This research is also in line with research in 2017 and 2018 which stated that after the administration of intervention with the consumption of egg whites in nifas mothers with perineum wounds can accelerate the healing of perineum wounds.[12][13]

High protein content in egg whites can help accelerate the formation of damaged cells, in healing protein wounds act as raw material for the formation of fibrin and collagen proteins and stimulate angiogenesis thus accelerating cell regeneration, fibrin thread formation and new cell growth in perineum wounds Albumen, often called egg whites, contains most of the liquid in eggs which is about 67%. Albumen contains more than 50% egg protein, and contains niacin, riboflavin, chlorine, magnesium, potassium, sodium. In 1 egg there are proteins, vitamin A, iron, vitamin B12, Riboflavin, Choline, Zinc and calcium.[14] Nutrients contained in egg whites Per 100 gr of chicken eggs contain 174 calories, 10.8 gr of protein, 4.9 mg of iron and 61.5 gr of retinol [15]

According to the analysis of researchers in the table obtained from the treatment group almost a portion of respondents (37.5%) education is higher education and table 1 there are 12 respondents or (75%) respondents or most respondents there is a culture of *tarak*. This shows that a person's education can also influence the mindset of receiving information and decision-making for *tarak* or not, both of which are the most influential factors in nutrient consumption. The postpartum period is a time when nutritional needs increase especially protein. Egg white protein has a high biological value because it contains complete amino acids. Egg whites contain very high proteins, Egg white protein is very easy to digest, absorb, and use by the body for the growth and development of body tissues, unfortunately there are still many people who do *tarak* of eating eggs because it is considered to cause watery wounds and itching, when that is not true.

CONCLUSION

The rate of perineum wound healing process in postpartum mothers who consume egg whites in the working area of Tiron Health Center – Kediri in 2020 mostly heals normally. The rate of perineum wound healing process in postpartum mothers who do not conserve egg whites in the working area of Tiron Health Center – Kediri in 2020 is mostly cured slowly.

There is an effect of egg white consumption on the healing process of perineum wounds in mothers postpartum in the working area of Tiron Health Center – Kediri in 2020

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