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# Effect of high consumption the phyto-protein on quality of wound healingperineal on the postpartum at Primary Health Center Mlati II District Sleman

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***Abstract***

*Postpartum infections are still the leading cause of maternal death after bleeding and hypertension in pregnancy. The main cause of infection during the puerperal period is the presence of injury at perineum.Wound healing with perineal stitch quality assessment in the puerperium was expected to prevent postpartum mother from the danger of infection or physiological complaints that is by adding the intake or consumption of high protein diet in daily life.The purpose of this study was to determine the effect of high consumption of phyto-protein on perineal wound healing quality in postpartum mothers at Primary Health Center of Mlati II District Sleman Year 2017. The research design used was experimental research. The population used in this study was postpartum who maternally and experienced injury to the perineum. The result of p-value of REEDA scale shows p-value is 0,050=0,05 and for food record shows p value equal to 0,000<0,05, then the test result is significant. Conclusion and Suggestion: There is effect that happen between high consumption of phyto-protein to quality of perineum healing with p value 0,05 (p value < 0,05). It is hoped that health workers can provide alternative counseling if they can not persuade postpartum women to abandon the culture of abstinence.*

***Keywords***: *phyto-protein, wound healing perineal*

## INTRODUCTION

According to the World Health Organization (WHO) (2012) nearly 90% of normal delivery processess have injury in perineal. There are 2.7 million cases of perineal rupture in maternity mothers around the world. Along with the increasing number of midwives who do not know good midwifery care, the figure is expected to reach 6.3 million cases by 2050. In America, out of 26 million mothers who gave birth, 40% of them experienced perineal injury. In Australia, there will be 20.000 annually maternity mothers or about 15% of them will experience perineal injury. Perineal injury is a problem that is quite common in Asian societies because as much as 50% of all maternity mothers experience perineal injury. Puerperal infection is still the main cause of maternal death after bleeding and hypertension in pregnancy. The incidence of postpartum infection in 2013 was 7,3%, an increase from 2012, which was 5,6% (Kemenkes RI, 2016). Factors that cause puerperal infections include; insufficient immune system, poor postpartum care, malnutrition, anemia, poor hygiene, and fatigue. The main cause of infection in the puerperium is the perineal injury (BKKBN, 2011).

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Healing of perineal wounds can be caused by several factors including nutrition, maternal age, cleanliness (personal hygiene), culture, and also heredity. Wound healing with an assessment of the quality of perineal sutures in the puerperal period is expected to avoid postpartum mothers from the danger of infection or physiological complaints, namely by increasing their intake or high consumption of protein in their daily diet.
One of the most important nutrients in the process of wound healing is protein. Hayu (2013) in her research stated that protein will greatly affect the healing process of perineal wounds because the replacement of damaged tissue will greatly require protein for the regeneration of new cells. Protein is responsible as a substance for building muscle blocks, body tissues, but can not be stored by the body, so for the healing phase of the wound is needed protein intake every day (Supiati, 2015). Sources of protein can be obtained from plants which contribute to simple amino acids and are more easily absorbed by the body (Lebang, 2015).

The results of a preliminary study conducted by researchers on February 7, 2017 at Primary Health Care Mlati II in District Sleman, there were 312 mothers who had normal birth in January-December 2016 with 26 monthly deliveries. The number of postpartum mothers who experienced perineal injury on average were 21 people each month. From the information from midwives in Primary Health Care Mlati II every month in 2016 there were cases of long perineal wound healing and the quality of wound healing did not work well due to postpartum mothers who did not carry out the therapy recommended by midwives and there were still postpartum mothers who believed in myths of abstinence certain foods after giving birth.

Perineal injury after birth if not guarded can cause infection which will end with maternal death, therefore perineal wounds need to be maintained properly and confirmed that the healing is normal. One aspect that plays an important role in healing perineal wounds is the intake of nutrients, especially proteins that are responsible for wound healing. Vegetable protein is still a food that is in great demand by most Indonesians because it is easy to get and the price is affordable, including in Yogyakarta. The purpose of this study was to determine the effect of high consumption of phyto- protein on the quality of perineal wound healing in postpartum mothers on the Primary Health Care Mlati II District Sleman II in 2017.

## RESEARCH METHODS

The research design used in this study is experimental research. The method used in this experimental study is nonrandomized posttest only control design where the researcher will select two groups selected according to criteria then one group is treated while the other is not treated and then measured and observed. Respondents who were sampled in this study were 30 respondents with the provision of 15 respondents to the intervention group and 15 respondents to the control group. The sample technique used is accidental sampling. In this study the bivariate test used was a non-parametric Mann-Whitney test.

## RESULTS AND DISCUSSION

**Table 1.** Characteristics of respondents

| Characteristics | Intervension | | Control | |
|---|---|---|---|---|
| | n=15 | % | n=15 | % |
| **Age** | | | | |
| < 30 | 4 | 26,7 | 10 | 66,4 |
| > 30 | 11 | 73,3 | 5 | 33,6 |


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| | | | | |
|---|---|---|---|---|
| **Profession** | | | | |
| PNS | 1 | 6,6 | 0 | 0 |
| Guru | 1 | 6,6 | 0 | 0 |
| IRT | 13 | 86,8 | 15 | 100 |
| **Qualification** | | | | |
| SD | 2 | 13,4 | 1 | 6,6 |
| SMP | 3 | 20 | 3 | 20 |
| SMA | 8 | 53,4 | 11 | 73,4 |
| D1 | 1 | 6,6 | 0 | 0 |
| S1 | 1 | 6,6 | 0 | 0 |
| **Believe abstinence food** | | | | |
| Yes | 15 | 100 | 15 | 100 |
| No | 0 | 0 | 0 | 0 |
| **Protein allergies** | | | | |
| Yes | 1 | 6,6 | 0 | 0 |
| No | 14 | 93,4 | 15 | 100 |
| **DM history** | | | | |
| Yes | 0 | 0 | 0 | 0 |
| No | 15 | 100 | 15 | 100 |
| **Laceration** | | | | |
| Spontan | 15 | 100 | 15 | 100 |
| Episiotomi | 0 | 0 | 0 | 0 |
| Laceration level two | 15 | 100 | 15 | 100 |

**Table 2.** Average length of perineal wound healing in intervention and control groups

| | N | Mean (Days) | Mean (Protein Consums) |
|---|---|---|---|
| Intervension | 15 | 5,67 | 112,5 |
| Control | 15 | 6,8 | 48,1 |

**Table 3.** Data normality test

| Category | Shapiro-Wilk Sig |
|---|---|
| REEDA Scale | 0,002 |
| Food Record | 0,000 |

**Table 4.** Effect of high consumption the phyto-protein on quality of wound healing perineal on the postpartum at Primary Health care Mlati II District Sleman

| Mean | Std. Deviation | Mann- Whitney U | Exact Sig [2*(1- tailed sig)] | *p- value* (Sig.2 tailed) |
|---|---|---|---|---|
| 6.13 | 1.613 | 68.500 | 0.067[a] | 0.050 |
| 80.367 | 334.601 | 0.000 | 0.000[a] | 0.000 |

High consumption of vegetable protein to the quality of perineal wound healing in the intervention group. The results of research that have been done that on day 1 to day 4 all respondents experienced a poor perineal injury that experienced a sign of REEDA, in 2 respondents from 15 respondents in the intervention group experienced redness (redness) for 2 days, did not experience edema (swelling), ecchymosis (bleeding spots), and discharge (expenditure), a state of approximation has not occurred. On day 5, there were several respondents who had an approximation (40%). Perineal injury in good condition means there is no sign of REEDA in perineal wounds and on average most perineal wounds improve on day 7 (73,3%). This can occur due to maternal compliance in the fulfillment of good nutrition, especially in the consumption of vegetable protein. This is in line with Craig & Mangels (2009) statement which states


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that amino acids contained in vegetable protein are not as complete as animal protein. But the addition of other ingredients is by mixing two or more different sources of vegetable protein, the type of limiting amino acids will complement the protein content.
High consumption of vegetable protein to the quality of perineal wound healing in the control group. The results of the wound healing quality on day 1 to day 4 all respondents experienced a bad injury situation because there were signs of REEDA in perineal wounds. This means that on perineal wounds there are 5 people from 15 respondents who experienced signs of redness (redness on the first day and second day, whereas on indicators of edema (swelling), ecchymosis (bleeding spots), and discharge (expenditure) there were no signs of perineal injury In the case of an approximation (wound unification) it has not happened so that the wound is said to be poor, the perineal wound condition starts to improve starting on day 5 (13,3%) and the most experienced perineal wound healing occurs on day 7 (40%). Poor condition of wound healing quality can be caused by maternal disobedience in fulfilling the nutrients needed by the body to regenerate damaged cell tissue coupled with maternal trust in the culture of abstinence from animal protein which can cause poor nutrition. This is in line with the research conducted by Nurhikmah (2009) which states in his research that belief in indigenous beliefs regarding abstinence from animal protein foods that are still entrenched in society can lead to high obstetric problems. This is reinforced by research conducted by Ija (2009) stating that if postpartum mothers are able to treat wounds properly at home, supported by good nutritional status, the healing process of the wound will run normally according to the wound healing period, and the risk of future infections. childbirth can be avoided.

Effect of high consumption of phyto-protein on the quality of perineal wound healing in postpartum mothers on the Primary Health Care Mlati II District Sleman. Based on the results of statistical tests using the Mann-Whitney test that has been carried out by the researchers showed that p-value 0,050 ($p < 0,05$) means that there is an effect of high consumption of protein on the quality of perineal wound healing. Average perineal wounds healed with good quality occurred on day 5 in the intervention group (40%) and the control group (13,3%). The quality of perineal wound healing was more experienced by mothers in the intervention group because the average intake of vegetable protein in the mothers of the intervention group was more (112.5 grams) compared to the control group (48.1 grams).
Vegetable protein is preferred because the amino acid content is more natural and easier to obtain than animal protein. This is in line with research conducted by Peles and Zilberman (2012) which states that vegetable protein has advantages over various types of natural proteins that are used for biomedical applications because of the relatively low prices and relatively long and stable storage times, besides the protein donated from Vegetable elements contribute to simple amino acids and are more easily absorbed by the body. Wound healing using vegetable protein protects to produce a new, smoother and more natural tissue structure.

Utari (2011) states that in the last 10-12 years research on increased and profound vegetable protein proves that consuming vegetable protein affects several aspects of health including wound healing. In general, vegetable protein contains more amino acids such as arginine, glycine and alanine, while animal protein contains lysine and methionine. One of the most important amino acids in the healing process of wounds and contained more than other amino acids in vegetable protein is arginine. The mechanism of the influence of arginine in wound healing is that arginine is one of the


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Nitrate Oxide (NO) forming materials that will help collagen synthesis in the wound area.

## CONCLUSION

The average length of wound healing with good wound healing quality for postpartum women who were given high consumption of vegetable protein was 5.67 days with an average consumption of vegetable protein as much as 112.5 grams. The average length of wound healing with good wound healing quality for postpartum women who were not given vegetable protein consumption was 6.8 days with an average consumption of vegetable protein as much as 48.1 grams. There is an effect that occurs between high consumption of vegetable protein to the quality of perineal wound healing with p-value 0,05 (*p value* <0,05).

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