

The Effect of Snake Fish Extract (*Channa striata*) on Post Cesarean Section Wound Status in Postpartum Anemia Mothers

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ABSTRACT

Background: A labor with Sectio Caesarea (SC) will increase mortality rate, which is twice the rate of vaginal delivery. The morbidity rate is also higher in SC delivery due to post-SC wound infection. Post-SC wound healing requires high albumin. This study is intended to determine the effect of snake fish extract on post-SC wound status in postpartum anemia women.

Subjects and Method: This was a true experimental study with randomized control group post-test design. The study was conducted at Hj. Anna Lasmanah Hospital, Banjarnegara, Central Java, in May to June 2018. The population of all post-partum postpartum mothers was anemia. A sample of 30 study subjects was selected by stratified random sampling, consisted of 15 study subjects in intervention and control groups. The dependent variable was post-SC wound. The independent variable was snake fish extract. Post-SC wound was measured by REEDA scales. The data was analyzed by General Linear Model Repeated Measure.

Results: In day-5, post-SC wound in the intervention group (mean= 0.27; SD= 0.46) was lower than control group (mean= 1.07; SD= 0.80) and it was statistically significant (p= 0.002).

Conclusion: *Channa striata* extract can accelerate post-SC wound healing.

Keywords: *Channa striata* extract, wound status, sectio caesarea, anemia

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BACKGROUND

Sectio Caesarea (SC) is a modern operating methods, aims to lowering the morbidity rate and mortality rate in maternal (Sofian, 2011). The World Health Organization (WHO) sets the average standard of SC in a country is around 5-15% in the world. In Indonesia, childbirth with SC has exceeded the maximum WHO standard of 5-15% (WHO, 2010).

A delivery with SC action will increase the mortality rate that is twice the rate of vaginal delivery, the rate of morbidity is also higher in delivery SC this is due to infection, blood loss, and damage to internal organs (Kulas et al., 2008). Ninety percents of postoperative morbidity are

caused by infection (infection of the uterus or endometritis, voiding devices, and surgical wounds). For a long time, wound healing after SC surgery takes 1 week and can continue for 1 year or more until the scar is strong (Reeder and Martin, 2011).

Common factors affecting wound healing consisting of age, nutrition, steroids, sepsis, and maternal diseases such as anemia, diabetes, and drugs, as well as indications of delivery of SC (Damayanti, 2014). During the wound healing process post-SC requires quality, nutritious nutrition, and enough calories. The food consumed should contain protein, vegetables, and fruits. Nutrition will affect the post-wound healing process SC which

results in the wound not healing properly or abnormally. Protein is a food substance that is very important to form new tissues, so that it is very well consumed by the post-partum mothers so that post-SC wounds will heal quickly (Said, Taslim and Bahar, 2012).

Snake fish have the highest albumin content compared to other fish. Albumin is one of the important types of protein that the human body needs, every day even in the process of wound healing. Snake fish albumin has much better quality than egg albumin which is commonly used in healing post-surgical patients (Listyanto and Andriyanto, 2009).

From the description above, study is needed to determine post-SC wound status in post-partum women by giving snake fish extract with a dose of 1000 mg for 14 days. For this reason the researcher will conduct a study entitled "The Effect of Snake Fish Extract on Post-SC Injury Status in Post-partum Anemia Mothers".

SUBJECTS AND METHOD

1. Study design

This was a true experimental study with randomized control group post-test design. This study was divided into 2 groups: intervention and control groups. The study was conducted at Hj. Anna Lasmanah Hospital, Banjarnegara, Central Java, from May to June 2018.

2. Population and Sample

The population of this study was all patient with post-SC postpartum anemia in Hj. Annna Lasmanah Hospital Banjarnegara in May to June 2018. The population of all post-partum postpartum mothers was anemia. A sample of 30 study subjects was selected by stratified random sampling, consisted of 15 study subjects in intervention and control groups.

3. Study Variables

The dependent variable was post-SC wound. The independent variable was snake fish extract.

4. Operational Definition of Variable

Snake fish extract was defined as Pujimin brand fish extract with 1000 mg doses for 14 days. Wound status was defined as a wound assessment that was assessed by redness, edema, ecchymosis, discharge, and approximation. SC indication was defined as an indication of mother that given labor with SC, divided into a risk of a long healing wound and not at risk of a long healing wound.

5. Study Instrument

The study instrument in this study were observation sheets for snake fish extract instrumental and REEDA scale for wound status instrumental.

6. Data Analysis

The data in this study was analyzed using test for variable confounding with homogeneity, univariate analysis (mean, standard deviation), bivariate analysis (repeated measure ANOVA (test of between-subjects effect), and repeated measure analysis.

7. Research Ethics

This study has obtained a research ethics letter from the Ethics of the Kepmenkes Semarang Polytechnic number: 425/KEPK-/Poltekkes-Smg/EC/2018.

RESULTS

1. The Characteristics of Subjects

The characteristic of subjects showed in table 1. Table 1 showed that the average of age among the intervention group was 25.27% in the control group was 26.60%. The homogeneity statistical test showed no differences in age and SC indication, the data were significant in each group (0.411 and 0.345).

Table 1. Frequency distribution of the study subjects

Characteristic	Intervention Group (n=15)		Control Group (n=15)		Total		p
	N	%	N	%	N	%	
Age							0.4111
≤ 35 years	1	6.7	1	6.7	2	6.7	
> 35 years	14	93.3	14	93.3	28	93.3	
SC Indication							0.345
Risk	2	13.3	3	20	5	6.7	
No risk	13	86.7	12	80	25	93.3	

2. Univariate Analysis

Based on Table 2, the average transformation in post-SC wound status was measured 4 times in the intervention group and the control group above for post-SC wound status on day 2 in the intervention

group with a value of 0.87 and 1.33 for the control group. After giving snake fish extract, on 5th day intervention group was 0 while in the control group until the 15th day the average wound status was 0.33.

Table 2. Measurement of Wound Status Value

Wound Status	Group			
	Intervention		Control	
	Mean ±SD	Min-max	Mean ±SD	Min-max
Day 2	0.87 ±0.35	0-1	1.33 ±0.49	1-2
Day 5	0.27 ±0.46	0-1	1.07 ±0.80	0-2
Day 12	0 ±<0.01	0-1	0.33±0.49	0-1
Day 15	0 ±<0.01	0	0.33±0.49	0-1

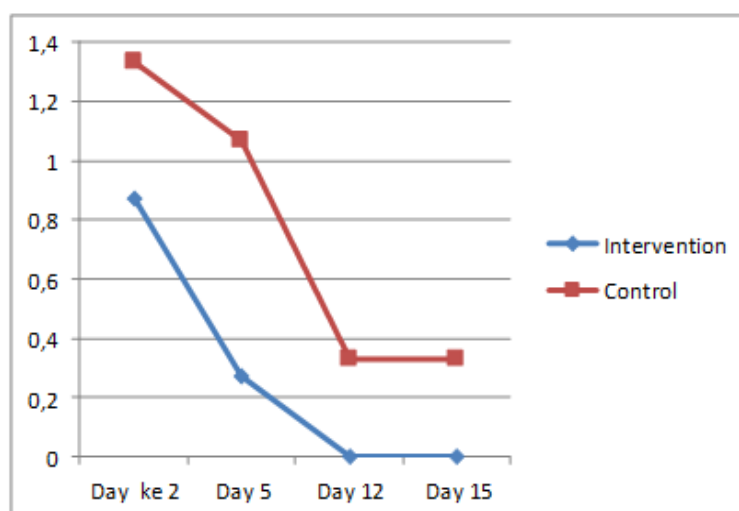


Figure 1. The average of post-SC wound in the intervention and control group

Wound status of anemia post-SC mothers will be shown in Figure 1. Based on Figure 1 on days 2 to 15 for the intervention

group and control group with an average value decreased or wound value criteria better. It can be concluded that the wound

status in the intervention group was better than the treatment group.

3. Bivariate Analysis

Table 3 showed the differences of wound status post-SC on postpartum anemia

mother in group intervention and controls. Based on the table 3, $p \leq 0.001$ which means that there is a difference in post-SC wound status in the intervention and control group.

Table 3. Results of Analysis Repeated Measure ANOVA (Test of Between-Subjects Effects)

Source	Type III Sum of Squares	df	Mean	F	p
Wound Status	33.08	1	33.08	76.12	≤ 0.001

4. Analysis of Differences in Post-SC Injury Status

Table 4 shows that the results repeated test measure since the measurement of the 2nd day after the intervention obtained

$p < 0.005$, which means that there began to be a difference in the measurement of wound status from the first measurement until the 15th day.

Table 4. Differential Analysis Wound Status between Control Group and Intervention Group

Day	Group	Mean	SD	p
2	Control	1.33	0.49	0.006
	Intervention	0.87	0.35	
5	Control	1.07	0.80	0.002
	Intervention	0.27	0.46	
12	Control	0.33	0.49	0.013
	Intervention	0	0.00	
15	Control	0.33	0.49	0.013
	Intervention	0	0.00	

DISCUSSION

Of a 15 respondents who were given snake fish extract have a good wound status criteria on the 5th. Whereas in the average control group on the 12th and 15th days there were still some that were not good. This is in accordance with the study that has been carried out by snake fish extract on wound healing occurs at least on the 6th day and the maximum of the 15th day (Nugraheni and Kurniarum, 2016).

Wound healing is the process of replacing and repairing damaged tissue functions. The wound healing process is influenced by a variety of factors, namely: vascularization, age, anemia, co-morbidities, nutrition, urination, drugs, smoking,

and stress (Nurani, Keintjem and Losu, 2015). The results of the study based on the Test of Between-Subjects Effect is a value of $p \leq 0.001$ which means that there is a significant difference between the intervention group and the control group. This is because snake fish extract contains higher protein than other types of fish. Protein functions to accelerate wound healing after surgery (Agustin, Dewi, and Rahardja, 2016). Snake fish can also increase serum albumin in the process of wound healing and high protein content in snake fish functions in the formation of new cells in the body of postoperative patients. Albumin is one of the important types of protein that the human body needs every day even in the process of wound healing (Listyanto

and Andriyanto, 2009).

The same study on snake fish extract for wound healing performed by Harianti that snake fish have high albumin content that can accelerate the healing of surgical scars. This has also been done by Prof. Eddy, a total of 2 kilograms of snake fish extract per day are given to a number of patients who have low albumin levels (1.8 g/dl). As a result, after eight days, albumin levels in the patient's blood became normal, i.e. 3.5 to 5.5 g/dl, and surgical wounds healed without side effects (Harianti, 2011). The results of study by Shafri and Amanan (2012) are effective in wound healing due to the high content of amino acids, such as glycine, fatty acids involved in wound healing from collagen reactions, wound contractions, and return of epithelial tissue to wounds (Ma, M. S. and Mj, A. M, 2012).

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