

## THE EFFECT OF SNAKEHEAD FISH (*CHANNA STRIATA*) CONSUMPTION IN ACCELERATING PERINEUM WOUND HEALING

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### Abstract

*A perineum tear is an obstetric tear in the perineum area due to the muscles' inability and soft tissues to accommodate the fetus's birth. WHO reported 90% of women experienced perineum tear during spontaneous labor. If the wound took a long time to heal, there would be discomfort such as pain and fear of moving. To help wound healing, the mother could consume snakehead fish (Channa Striata). This study aims to determine the effect of snakehead fish's consumption (Channa Striata) on the acceleration of perineal wound healing. The quantitative research method with quasi-experiments posttest only controls group design was used in this study. Respondents of this study were postpartum mothers who had first and second-degree perineal injuries. The respondent was given intervention in the form of consuming snakehead fish. Wound healing speed data was carried out by observation. The study obtained a p-value of 0.000, it can be concluded that  $H_0$  was rejected and  $H_a$  accepted. This indicates a significant influence of snakehead fish's consumption (Channa Striata) on the acceleration of perineum wound healing in the postpartum mother.*

**Keyword:** postpartum, snakehead fish, perineum wounds

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### 1. Introduction

The puerperium is a period starting 2 hours after the placenta's birth to 6 weeks or 42 days after that. The puerperium is a period of recovery for the reproductive organs that undergo changes during pregnancy and childbirth, such as perineal tears that occur in almost all first deliveries, so intensive care is needed to speed up the healing process and prevent infectious complications that can be caused by delayed healing of the perineal wound. The perineal tear is

obstetric in the perineal area due to the pelvic muscles and soft tissues' inability to accommodate the fetus's birth. <sup>[1]</sup>

According to the World Health Organization (WHO), 90% of mothers experience perineal tear. In 2009, there were 2.7 million cases of perineal tear. It was estimated that in 2020 it would reach 6.3 million if the midwife did not know about midwifery care for postpartum mothers, especially perineal suture wounds at home. <sup>[1]</sup>

In Asia, there were many labor cases with perineal tears. It was estimated that 50% of mothers experience it. In Indonesia, 24% of mothers aged 25-30 years experienced perineum injury, and 62% of them were mothers aged 32-39 years (C. d. Bascom, 2011). The results of a study from the Bandung Research and Development Center found that one in five women giving birth with perineal rupture died (21.74%).<sup>[1]</sup>

If the perineal wound was not treated properly, it would lead to infection. According to WHO, in 2005, there were more than 585,000 deaths during pregnancy and childbirth. 11% of maternal deaths due to infection. About 25-55% of these infections were caused due to illness in perineum wounds.<sup>[2]</sup>

The maternal mortality rate (MMR) in Ciamis Regency in 2017 was 13 cases out of 18,492 births. This figure shows a decline in numbers from the previous year in 2016, 15 cases.<sup>[3]</sup> For the incidence of maternal deaths in Cihaurbeuti District in 2019, there was 1 case of death due to the Atonia Uteri case.

When wound healing was delayed, the impact that occurs can cause discomfort such as pain and fear of moving. If the mother had poor mobilization, it could cause a sub-involution uterus, abnormal discharge, and postpartum hemorrhage.<sup>[1]</sup>

Menurut penelitian Elok Widjiansih pada tahun 2012 bahwa tingkat konsumsi makanan yang bergizi berpengaruh terhadap penyembuhan luka pada manusia, salah satunya dengan mengkonsumsi ikan gabus (*Channa Striata*).<sup>[4]</sup>

The majority of people already knew that for wound healing, a diet high in protein was needed. One source of food that was rich in protein is

snakehead fish. Snakehead fish contain higher protein than others. Protein is necessary for the body and functions to increase endurance, accelerate wound healing, and help the body's metabolic processes.<sup>[5]</sup> Snakehead fish (*Channa Striata*), or in Javanese called "kuthuk", lives in rivers, swamps, even slightly brackish, and has economic value with abundant catches.<sup>[6]</sup> Endang's (2014) research found that consuming 100 grams of snakehead fish helps most postpartum wound-healing.<sup>[7]</sup>

Tujuan penelitian ini adalah untuk mengetahui pengaruh pemberian konsumsi ikan gabus (*channa striata*) terhadap percepatan penyembuhan luka perineum ibu nifas.

## 2. Methods

This study used a quantitative research design with a quasi-experimental, posttest only control group design.<sup>[8]</sup> The population in this study were postpartum mothers who gave birth in the presence of first or second-degree perineal ruptures. The sampling technique used purposive sampling technique, namely 30 people in the treatment group and 30 people in the control group. This study's research instrument was a Standard Operating Procedure (SOP) for healing perineal wounds. The postpartum mother was given snakehead fish 3 times a day for 10 days in the intervention group. During consuming snakehead fish, mothers were observed for perineal wounds. Observations were made on the first, fourth, seventh, and tenth day. Meanwhile, the control group was not given intervention, but observations were made simultaneously as the intervention group. Data analysis in this study used univariate and bivariate data processing using computerization. The test used in this study was the Mann-Whitney test.

### 3. Results and Discussion

**Table 1.** Effect of Snakehead Fish Consumption according to Observations Day 1, 4, 7, and 10 in the Experiment Group

| Observation | Experiment | n  | Mean Rank | Sig.  |
|-------------|------------|----|-----------|-------|
| Day-1       | Pretest    | 30 | 30.50     | 1.000 |
|             | Posttest   | 30 | 30.50     |       |
| Day-4       | Pretest    | 30 | 27.58     | 0.013 |
|             | Posttest   | 30 | 33.42     |       |
| Day-7       | Pretest    | 30 | 23.42     | 0.000 |
|             | Posttest   | 30 | 37.58     |       |
| Day-10      | Pretest    | 30 | 18.83     | 0.000 |
|             | Posttest   | 30 | 42.17     |       |

According to observations on the 1st, 4th, 7th, and 10th day of the experimental group, the results of feeding corks fish. Based on the observation, on the first day of the experiment group had a p-value > 0.05,

which means no different pretest and posttest results. Observation on day 4, 7, and 10 show a p-value <0.05. It means that there are differences between pretest and posttest.

**Table 2.** Effect of Snakehead Fish Consumption according to Observations Day 1, 4, 7, and 10 in the Control Group

| Observation | Kontrol  | N  | Mean Rank | Sig.  |
|-------------|----------|----|-----------|-------|
| Day-1       | Pretest  | 30 | 30.50     | 1.000 |
|             | Posttest | 30 | 30.50     |       |
| Day-4       | Pretest  | 30 | 27.50     | 0.010 |
|             | Posttest | 30 | 33.50     |       |
| Day-7       | Pretest  | 30 | 25.10     | 0.001 |
|             | Posttest | 30 | 35.90     |       |
| Day-10      | Pretest  | 30 | 23.90     | 0.000 |
|             | Posttest | 30 | 37.10     |       |

Table 2 shows that the control group had no difference between pretest and posttest on the first day (p-value > 0.05). Based on observation during the 4th, 7th, and 10th-day show a significant difference between pretest and posttests (p-value <0.05).

Table 3 shows in the first-day statistically obtained U-value of 435 and a W-value of 900. If converted to a Z value, the value is -0.331. The p-value of 1.000 means there is no significant difference between the experimental and control groups. The 4th day shows a U-value of 435 and a W-value of 900. When converted to a Z value, the amount

is -1,000. The p-value is 0.013; there is a significant difference between the experimental and control groups. The 7th day shows a U-value of 375 and a W-value of 840. If converted to a Z-value, the magnitude is -1,420. There is a significant difference between the experimental and the control group (p-value: 0.000). The 10th day shows a U-value of 255 and a W-value of 720. When converted to a Z-value, the magnitude is -3.330. The p-value is 0.000; it means there is a significant difference between the experimental and control groups.

**Table 3.** Effects of Snakehead fish Consumption on Healing Perineal Wounds

| Variabel         | Mean Rank | Mann Whitney | Wilcoxon W | Z      | Sig.  |
|------------------|-----------|--------------|------------|--------|-------|
| <b>Day-1</b>     |           |              |            |        |       |
| Experiment Group | 31.00     | 435          | 900        | -0.331 | 1.000 |
| Control Group    | 30.00     |              |            |        | 1.000 |
| <b>Day-4</b>     |           |              |            |        |       |
| Experiment Group | 31.00     | 435          | 900        | -1.000 | 0.013 |
| Control Group    | 30.00     |              |            |        | 0.010 |
| <b>Day-7</b>     |           |              |            |        |       |
| Experiment Group | 33.00     | 375          | 840        | -1.420 | 0.000 |
| Control Group    | 28.00     |              |            |        | 0.001 |
| <b>Day-10</b>    |           |              |            |        |       |
| Experiment Group | 37.00     | 255          | 720        | -3.330 | 0.000 |
| Control Group    | 24.00     |              |            |        | 0.000 |

The effect test results used the Mann Whitney test so that the p-value was  $<0.05$ , which means there is a significant difference in perineal wound healing between the intervention group and the control group.

The observations on day 1, both in the treatment and control groups, were still in the hemostatic phase, which means that the perineal wound healing process was not good due to the bleeding in the wound area, and there was swelling. This study's results are in line with Karina (2016) stated that the first day was the hemostatic phase with signs of injury as follows: blood still fills in the wound area, swelling, presence of blood clots, tissue damage.<sup>[9]</sup>

Day 4 is an inflammatory phase. In this phase, the suture wound looks red, there is swelling around the wound due to an inflammatory reaction, an increase in temperature around the wound, excretion or discharge from the perineal laceration, and the suture wound appears to be well fused.<sup>[9]</sup>

Day 7 is the proliferation phase. In this phase, both groups found good perineal wound healing, indicated by the wound's wrinkled skin and the epithelium touching each other and covering the entire wound surface. This finding is in line with previous research,

which states that on the 7th day was proliferation phase, the signs were as follows: the wound did not ooze, granulation, the skin was wrinkled, collagen tissue forms a wound, the epithelium touches and covers all over the wound surface.<sup>[9]</sup>

Previous research stated that day 10 was a remodeling phase where the perineum wound looked like scar tissue, the tissue's redness decreased, the wound dried up and closed, the wound closed nicely, the functional epithelium that covered the wound was released. The observations on the 10th day of the remodeling phase found that the perineal wound healing process was good in the treatment group. It was shown that the wound closed well, there was scar tissue, the wound dried up and closed. Meanwhile, in the control group, the perineum wound still showed a reddish color even though the scar had appeared.<sup>[9]</sup>

The obstacle found by researchers in this study was that data collection was carried out during the Covid-19 pandemic. With the policy of limiting physical contact, data collection cannot be done directly. The researcher assisted the observations made by an enumerator when the midwife made home visits and through video calls.

#### 4. Conclusion

Postpartum mothers who were given snakehead fish experienced accelerated healing of perineal wounds than those not given snakehead fish. It can be concluded that there was a significant effect of consuming snakehead fish (*Channa Striata*) acceleration of perineal wound healing in postpartum mothers.

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#### 6. References

- [1]. Intiyani R, Astuti DP, Sofiana J. Pemberian Suplementasi Zinc dan Ekstrak Ikan Gabus untuk Mempercepat Penyembuhan Luka Perineum. *URECOL 8 th Univ Res Colloq 2018 Univ Muhammadiyah Purwokerto*. 2018;571–8.
- [2]. Suyti, Azizah N. Pemanfaatan Propolisi Dalam Penyembuhan Luka Perineum Pada Ibu Post Partum. 2014;4(1):2.
- [3]. Dinas Kesehatan Kabupaten Ciamis. Profil Kesehatan Kabupaten Ciamis. Vol. 53, Dk. 2015. 1689–1699 p.
- [4]. Suprayitno E. Profile Albumin fish cork (*Ophichepalus striatus*) of different ecosystems. *Int J Curr Res Acad Rev* [Internet]. 2014;2(12):201–8. Available from: [www.ijcrar.com](http://www.ijcrar.com)
- [5]. Nugraheni I, Kurniarum A. Perbedaan Efektivitas Ekstrak Ikan Gabus Dan Daun Binahong Terhadap Lama Penyembuhan Luka Operasi Sectio Caesarea Pada Ibu Nifas. *Perbedaan Ef Ekstrak Ikan Gabus Dan Daun Binahong Terhadap Lama Penyembuhan Luka Operasi Sect Caesarea Pada Ibu Nifas* [Internet]. 2016;5(2):157–62. Available from: <http://jurnal.poltekkes-solo.ac.id/index.php/Int/article/view/226/201>
- [6]. Fuadi M, Santoso H, Syauqi A, Biologi J, Matematika F, Pengetahuan I. Uji Kandungan Albumin Ikan Gabus (*Channa striata*) dalam Perbedaan Lingkungan Air Albumin level Test of Snakehead Fish (*Channa striata*) in different salinity Environment. *J Ilm BIOSAIN TROPIS (BIOSCIENCE-TROPIC)*. 2017;3:23–30.
- [7]. Endang Buda Setyowati. Perbedaan Efektivitas Pemberian Putih Telur dan Ikan Gabus terhadap Penyembuhan Luka Perineum Ibu Nifas. 2014;(110):16–24.
- [8]. Zukhruf N, Kiromah W, Lestari S, Astuti DP. Penerapan Pemberian Madu Untuk Mempercepat Penyembuhan Luka Perineum Pada Ibu Post Partum Application Of Giving Honey To Accelerate The Perineal Wound The 8 th University Res. *8 th Univ Res Colloq 2018 Univ Muhammadiyah Purwokerto*. 2018;561–5.
- [9]. Karina N, Wagiyono, Elisa. Efek Pemberian Ekstrak Ikan Gabus Terhadap Penyembuhan Luka Perineum Pada Ibu Post Partum Di Bpm Bonangrejo Demak. *J Ilmu Keperawatan dan Kebidanan* [Internet]. 2016; Available from: <http://ejournal.stikestelogorejo.ac.id/index.php/ilmukeperawatan/article/viewFile/485/484>