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## Research Article

# The Effect of Cork Fish (*Channa Striata*) Extract on Perineum Wounds among Post-partum Clients

Rositah Rositah<sup>1\*</sup> | Ita Herawati<sup>2</sup>

<sup>1,2</sup>Sekolah Tinggi Ilmu Kesehatan Abdi Nusantara, Jakarta, Indonesia

### \*contact

mamahasya098@gmail.com

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### Abstract

**Aims:** This study aimed to determine the effect of giving Cork fish extract (*Channa Striata*) on perineal wounds

**Methods:** This quasi-experimental design research uses a one-group pretest-posttest design approach. Samples were collected using purposive sampling technique with total 40 post-partum mothers as respondents. Observation sheet used to measure perineal wound healing in the intervention and control groups

**Results:** The average perineal wound healing between the intervention group (3.65) and control (5.50) in mothers in the Walantaka Public Health Center, Serang City. There was an effect of giving cork fish extract (*Channa Striata*) on perineal wounds with the result (p.value= 0.000).

**Conclusion:** The result of this study showed that Cork fish extract can be used to perineal wounds among post-partum mothers. Further research about the other benefits and functions of Cork Fish Extract can be carried out, especially in the field of reproductive health.

### Keywords:

**Cork\_Fish, Perineal, Post\_Partum, Wound**

## INTRODUCTION

Childbirth often results in injury to the birth canal. The injuries are usually mild, but some are extensive and dangerous, so the vulva and perineum should always be examined after delivery. Perineal tears occur in almost all first deliveries and are not uncommon in subsequent deliveries. The complaints that post-partum mothers with perineal injuries commonly feel are discomfort, pain, mobilization, fear of defecation, and wound care usually uses anti-septic. (1)

The puerperium is also a period of recovery for reproductive organs that change during pregnancy and childbirth, such as perineal tears that occur in almost all first deliveries

and are not uncommon in subsequent deliveries, so intensive care is needed to accelerate the healing process and prevent infectious complications that may occur. This can be caused by delayed healing of perineal wounds (2)

Post-partum care includes physical and psychological care for the mother to achieve optimal health. Post-partum care is essential because, during the post-partum period, mothers often die caused of various problems such as bleeding and infection. This happens because of poor post-partum care (3).

According to the World Health Organization (WHO), in 2018, the maternal mortality rate in the world was 216 per 100,000 live

births or around 303,000 maternal deaths during pregnancy or childbirth and 58.1%, most of which occurred in developing countries, namely 302,000 maternal deaths. This figure represents a death rate 20 times higher than in developed countries, which is 239 per 100,000 live births, while in developed countries, it is only 12 per 100,000 live births. The causes of death during pregnancy, childbirth until the puerperium are approximately bleeding (28%), preeclampsia (24%), infection (11%), complications (8%), prolonged labour (5%), obstetric trauma (5%), obstetric embolism (3%). The percentage of MCH in preeclampsia was around 24% to 58.1% (4).

Based on the Indonesian Demographic and Health Survey (IDHS) in 2017, the maternal mortality rate in Indonesia is still high at 359 per 100,000 live births. The 3<sup>rd</sup> global target of Sustainable Development Goals (SDGs) is to reduce the Maternal Mortality Rate (MMR) by 2030. Referring to this target means that complex and serious effort is needed in dealing with this. In Indonesia, the most common causes of maternal mortality are direct obstetric causes, namely bleeding 28%, preeclampsia/eclampsia 24%, infection 11%, while indirect causes are obstetric trauma 5%, and others 11% (4).

The number of maternal deaths in Banten Province in 2018 reached 230 people (Banten Provincial Office 2018). The direct causes of maternal mortality in Banten Province in 2017 were 87 people with bleeding, 52 people with hypertension in pregnancy, 1 person with infection, 26 people with circulatory system disorders (heart, stroke, etc.), and 64 other people. Meanwhile, in 2019 the number of maternal deaths in Banten Province was 247 (Banten Provincial Office 2019). A comparison of the number of maternal deaths in Banten in 2018 and 2019 shows that maternal deaths have increased by 17 cases. There are three highest causes of maternal death in Banten Province in 2018: hypertension, second bleeding and third blood disorders. For

blood disorders, 45 people, infections 12 people, metabolic disorders 3 people and 56 people including heart, accidents and others (Profile of Health Office Banten Province 2019).

The maternal mortality rate from the Serang City Health Office in 2019 reached 221/100,000 per live birth with a total of 62/28,013 per live birth caused by bleeding in 14 people, including uterine atony, infection in 4 people, PEB and eclampsia 16 people, heart 11 people, TB 3 people Pulmonary oedema 3 people, brain tumour 1, bleeding 1, encephalitis 1, dyspnea 1, stroke no Herogic 1, KEK and KPD 1, poisoning 1, water embolism 1, and KET 1 (Profile of Health Office Serang City, 2019)

Physiologically the perineal wound will begin to heal within 6 to 7 days post-partum. The cause of the delay in healing perineal wounds is the mother's lack of knowledge about wound healing where the mother is afraid to mobilize early, cultural factors that have been attached for a long time is often used as a benchmark during the puerperium such as taboos on certain foods and more on the individual itself, including malnutrition. and unsanitary environmental conditions (5)

The impact of delayed healing of the first perineal wound is the occurrence of infection. The condition of the perineum exposed to lochia and moisture will significantly support the development of bacteria that can cause disease in the perineum. The second complication occurs. The emergence of infection in the perineum can spread to the bladder tract or the birth canal, which can result in the emergence of complications of bladder infection or infection in the birth canal. Post-partum conditions that can occur due to complications of perineal wounds include metritis, endometritis, peritonitis and even pelvic abscess. The third is the occurrence of post-partum maternal death. Slow handling of complications can cause death in post-partum mothers, considering the physical condition of post-partum mothers is still weak (5)

Mothers in the post-partum period need proper care. Pharmacological and non-pharmacological methods can do perineal wound care. Pharmacologically, betadine can be given, while non-pharmacological perineal wound care is using traditional medicine or natural ingredients that have few or no side effects, one of which is using Cork fish extract (6)

Cork fish (*Channa striata*) is one type of fish that can increase endurance because it contains high protein and albumin. Cork fish extract contains 70% protein and 21% albumin. In addition, Cork fish extract also contains complete amino acids and micronutrients zinc, selenium and iron. Other ingredients in Cork fish extract are allicin, allyl sulfide and furostanol glycosides (7). Protein and albumin function as building blocks for cells that have been damaged so that wound healing will take place more quickly. With the high content of protein and albumin, Cork fish may be used by the community for the wound healing process (6)

Research that has been carried out (7) so far to treat wounds and after surgery, human albumin serum is produced from human blood. To treat postoperative injuries, 3 ampoules of serum albumin are needed, Rp. 1.3 million per ampoule. By consuming Cork fish extract.

(8) research results show that giving Cork fish extract orally or by mouth can increase albumin levels, accelerate wound healing, and shorten hospitalization time. So it can be proven that Cork fish has high levels of protein and albumin, which can increase albumin levels of post-partum patients treated by giving Cork fish extract capsules 3 x 2 capsules per day for 7 days. The results of the average healing time in the experimental group were 3-5 days, while the control group averaged 7-9 days. Perineal wound healing in respondents who used Cork fish tended to be faster than in respondents who did not use Cork fish.

Also supported by previous research (9), there is a significant difference between the

treatment and control groups. The overall results of this study indicate that protein and albumin levels can be used as promising non-pharmacological agents to treat lacerations. Cork fish extract contains 70% protein and 21% albumin. In addition, Cork fish extract also contains complete amino acids in repairing damaged body tissues and has a role in increasing body resistance. The albumin content, which is only 21%, and the longer digestibility of Cork fish extract, which is 90%, causes less albumin protein content that the body can absorb, which results in the achievement of perineal wound healing in a good direction for longer, in this study the intervention group was given Cork fish extract. 3 x 2 capsules per day for 7 days without breaking.

Based on the data obtained by the author at the time of the preliminary study, it was found in the Walantaka Health Center Working Area. From the survey, it was found that 15 post-partum mothers had perineal tears, 6 (40%) of them experienced delayed wound healing (healed more than 7 days), while 9 (60%) people experienced routine perineal wound healing where the wound healed between 6 to 7 days. This means that there is still a problem with delayed recovery of perineal damages in post-partum mothers (Walantaka Health Center, 2021).

## METHODS

This study uses a qualitative research method with a phenomenological approach—Time. This research was conducted in March 2022 at the Posyandu RW 008 Pgilan Village. The research sample was 8 mothers of infants and toddlers. The sampling technique in this study used a simple random sampling technique to determine the location of the Posyandu and purposive sampling to select mothers of infants and toddlers.

To complete the literature search, eligible article references were reviewed, and article selection strategies can be seen in the image.

The research was conducted by conducting interviews with participants to explore the informants' expectations of services at Posyandu. The interview used several open-ended questions beginning with the question, "are you satisfied with the service at the Posyandu". Whatever the answer, the interviewer asks, "why are you satisfied/unsatisfied with the Posyandu service". Other open-ended questions include the components of structural, process, and output expectations. The interview method used is one-on-one interviewing.

Based on this description, the authors are interested in researching the effect of giving Cork fish extract (*channa starata*) to perineal wounds in the Walantaka Public Health Center, Serang City working area.

The research method is a quasi-experimental design using a one-group pretest-posttest design approach. Samples were collected using quota sampling totalling 40 post-partum mothers. An observation sheet was used to measure perineal wound healing in the intervention and control groups.

## RESULTS

**Table 1.**  
**Frequency Distribution of Respondents' Characteristics in the Control and Intervention Group in the Working Area of the Walantaka Public Health Center, Serang City**

Respondent Characteristics	Group			
	Intervention		Control	
	F	%	F	%
<b>Age</b>				
<20 Years	2	10	2	10
20 – 35 Years	15	75	15	75
> 35 Years	3	15	3	15
<b>Education</b>				
low	3	15	4	20
height	17	85	16	80
<b>parity</b>				
Primipara	6	30	7	35
Multipara	14	70	13	65

Based on table 1, the majority of the intervention group aged 20 – 35 years were 15 people (75%), 17 people had higher education (85%), and 14 people had multiparity (70%). Meanwhile, in the control group, the majority aged 20-35 years were 15 people (75%), 16 people had higher education (80%), and 13 people were multiparous (65%)

**Table 2.**  
**Wound healing category in the control group**

No	Category Wound Healing Time	Frequency	Percentage
1.	2 Day	3	15
2.	3 Day	6	30
3.	4 Day	7	35
4.	5 Day	3	15
5.	6 Day	1	5
	<b>Total</b>	<b>20</b>	<b>100,0</b>

Based on table 2 above, it can be seen that of the 20 maternal respondents in the intervention group given Cork fish extract experienced perineal wound healing for 2 days, as many as 3 people (15%), 3 days, as many as 6 people (30%), 4 days as many as 7 people (35 %), 5 days as many as 3 people (15%), and 6 days as many as 1 person (5%).

**Table. 3 Average perineal wound healing between the intervention and control groups in mothers in the working area of the Walantaka Public Health Center, Serang City**

Duration of Wound Healing					
Categories Long Healing wounds	N	Mean	Mean Difference	Min	Max
<i>Intervention Group</i>	20	3,65	1,85	2	6
<i>Control Group</i>	20	5,50		3	7

Based on table 3 above, it can be seen that the average length of wound healing in the intervention group was 3.65, and the average size of wound healing in the control group was 5.50, with a mean difference of 1.85.

## DISCUSSION

### Frequency Distribution of Respondents' Characteristics in the Working Area of Walantaka Public Health Center, Serang City

Based on the results of the study, the majority of the intervention group aged 20 - 35 years were 15 people (75%), 17 people had higher education (85%), and 14 people had multiparity (70%). While in the control group, the majority aged 20 - 35 years were 15 people (75%), 16 people had higher education (80%), and 13 people were multiparous (65%).

The study's results are supported by the theory of (1). The age factor can affect the predisposition to injury and the efficiency of wound healing mechanisms. Intact skin in the organs of healthy young adults is an excellent barrier to mechanical trauma and infection. At the age of 20, there is a significant decline in several functions such as a decrease in heart efficiency, vital capacity and a decrease in the immune system's efficiency. The ageing process occurs through changes in muscle elasticity

and decreased absorption of protein and carbohydrates. The study's results are supported by the theory of (1) that perineal rupture in parity mothers or primigravida mothers experience a higher risk. Birth spacing of fewer than two years is also included in the high-risk category because it can cause complications in childbirth.

The same study with Sondag in 2018 about age and culture of abstinence from food on perineal wound healing in post-partum mothers on the 7th day at BPS NY. Arifin S. Surabaya has as many as 49 respondents. There are respondents aged between 20 years-35 years (66.66%). This shows that the age of 20 - 35 years is the majority of respondents' choices because that age is not at risk for fetal growth, and the majority of respondents have low education (98%) and do not work (98%).

According to the researchers' assumptions in this study, those aged 20-35 years were the majority experienced perineal rupture grades II to III. This is also influenced by the perineum's elasticity, so it is easy to tear the birth canal in women who are too old > 35 years. Has decreased compared to the age of 20-35 years, and there is a very influencing factor, namely parity. This is because in primiparous children, the perineal soft tissue and the structure of the birth canal will be damaged. After all, the first child, during childbirth, the mother's perineal muscles will stretch, and there has never

been any experience of giving birth. Work and education are factors that play an important role in mothers' knowledge to carry out proper perineal wound care, one of which is through nutrition which will be needed during the healing period.

#### Differences in the Mean Wound Healing of the Control and Intervention Groups

Based on the study's results, there was a difference in the average length of wound healing in the intervention group of 3.65 and the average length of wound healing in the control group of 5.50, with a mean difference of 1.85.

This follows the theory of (10) that wound healing is the stage of replacement and repair of damaged tissue function and begins with the restoration of the perineal wound. The wound healing process goes through an inflammatory phase that starts when the tissue is damaged and lasts 1-4 days. Next is vasoconstriction of blood vessels to control bleeding by forming platelet plugs and fibrin fibres. Next is the proliferative phase, where new blood vessels are formed around the wound, ground substance and collagen fibres are formed to infiltrate the damage. Epithelial cells develop into capillaries which become a source of nutrition for a completely regenerated tissue, and collagen is well supported within 6-7 days. The criteria for assessing the wound are good (if the damage is dry, the perineum is closed, and there are no signs of infection such as redness, swelling, heat, pain, functional oleos), moderate (if the wound is wet, the perineum is closed and there are no signs of infection), poor (if the damage is damp). The perineum opens or closes and shows signs of infection). The next phase is maturation contributed by granulation tissue, namely collagen deposits for wound healing that lasts up to a month or even years.

According to researchers, in addition to a long time for wound healing without intervention, it takes a long time, > 7 days. The average heals on day 8 due to factors

including lack of nutritional support, especially protein that plays a role in tissue replacement, namely by giving egg white protein and Cork fish. Age, knowledge, weight, personal hygiene, medication, parity, and various other factors, perineal wound management measures include suturing the wound layer by layer, preventing unnecessary blood loss, and ensuring there are no open gaps in the wound, which can enter blood clots that inhibit wound healing. Special care for the postnatal perineum is needed, among others, to reduce discomfort, maintain cleanliness and prevent infection with tissue healing.

The results of the same study conducted by (11) on day 4 were still in the inflammatory phase with the following signs: redness in the area of the perineal suture wound, swelling around the injury due to an inflammatory reaction, increased temperature around the wound, excretion or discharge from perineal lacerations, proximity or union of sutured perineal tissues.

According to the researcher's assumption, the average wound healing in the control group is 7 days. On day 7, it is still in the proliferative phase with signs that the wound is no longer draining fluid, granulation, the wound skin shrinks, the formation of collagen tissue that forms the damage, the epithelium touches each other and covers the entire wound surface. While in the intervention group, the average healing time was 4 days due to the fast healing time of fewer than 7 days. The administration of Cork fish extract in the treatment group was intended to accelerate the healing of perineal wounds because Cork fish is one type whose main content is protein or albumin, which is relatively high.

Effect of giving Cork fish extract (*Channa striata*) on perineal wounds in the working area of the Walantaka Public Health Center, Serang City

Based on the study's results, there was a difference in the length of time for perineal

wound healing in the intervention group and the control group, which was 1.85 with a standard deviation of 0.103. Therefore, the results of the analysis obtained in the perineal wound healing group obtained a p-value ( $0.000 < (0.05)$ ), which means that there is an effect of giving Cork fish extract (*channa starata*) to perineal wounds in the working area of the Walantaka Public Health Center, Serang City.

In the study's results above, according to Uliyah's theory (2018), day 1 was still in the hemostasis phase with the following signs of injury: blood still filling the wound area, swelling, blood clots, tissue damage. At this stage, the hemostasis process occurs which is characterized by the release of histamine from damaged cells. To overcome this there is a process of hemostasis. This process requires the role of platelets and fibrin. In normal blood vessels, there are endothelial products such as prostacyclin to inhibit the formation of blood clots. When a blood vessel ruptures, the clotting process starts from the stimulation of collagen to platelets. Platelets stick to other platelets mediated by the protein fibrinogen. Platelet aggregation together with erythrocytes will close the capillaries to stop bleeding (Uliyah, 2018).

Based on the results of the 4th day study in the intervention group, the perineal wound healing process was good because there was no fluid coming out and there was closeness or union of the perineal tissue that had been sutured. Whereas in the control group the perineal wound healing process was not good because in this control group there was still blood coming out of the wound. This is due to the inflammatory process, when inflammation occurs, the amount of albumin in the blood plasma will decrease. So that the decreased albumin levels must be returned immediately, because albumin has various functions that can relieve inflammatory symptoms. Inflammation is the stage of the acute response to injury. This stage begins when the injury occurs (Uliyah, 2018).

The results of the study according to Hidayat's theory, (2018) on the 7th day above are still in the proliferative phase with the following signs: the wound is no longer releasing fluid, granulation, the wound skin shrinks, the formation of collagen tissue that forms the wound, the epithelium touch each other and cover the entire wound surface. In this proliferative phase, the fibers are reshaped and re-destroyed to adapt to the tension in the wound which tends to shrivel. These properties, together with the contractile properties of myofibroblasts, cause tension at the wound edges. At the end of this phase the tensile strength of the wound reaches 25% of normal tissue.

The results of the experimental group showed that after being given Cork fish extract the average perineal wound healing process was 4 days. Perineal wound healing is starting to heal the perineal wound with the formation of new tissue covering the perineal damage within 1-7 days post-partum. The results were carried out in the control group. The average perineal wound healing process was 7 days. The location of the differences in the groups is the time difference between the two. The treatment group shows a faster time when compared to the control group. This is believed to be due to the Cork fish extract, which contains albumin and high minerals so that it can accelerate the healing process of perineal wounds.

According to the researcher, giving Cork fish extract affects perineal wound healing because the combined fish extract contains high albumin, protein and minerals. In addition, Cork fish extract can be used as a substitute for serum albumin. To use Cork fish as medicine, the fish extract is taken by steaming it and then collecting the water so that the administration of Cork fish extract in the treatment group was intended to accelerate the healing of perineal wounds because Cork fish is one type of fish whose main content is protein or albumin which is relatively high.



The average healing of mothers in the intervention group was 3 days, while the control group was 5 days. Therefore, based on the results of this study, it can be concluded that mothers who consumed Cork fish extract (*Channa striata*) healed faster than mothers who were not given Cork fish extract (*Channa striata*).

## CONCLUSION

The result of this study showed that Cork fish extract can be used to perineal wounds among post-partum mothers. Further research about the other benefits and functions of Cork Fish Extract can be carried out, especially in the field of reproductive health. There was a difference in the average length of wound healing in the intervention group of 3.65 and the average length of wound healing in the control group of 5.50, with a mean difference of 1.85. Moreover, after being given Cork fish extract the average perineal wound healing process was 4 days. Further research about the other benefits and functions of Cork Fish Extract can be carried out, especially in the field of reproductive health.

## REFERENCES

1. Wiknjosastro HPD, SAIFUDDIN ABPD, Rachimhadhi T. Ilmu kebidanan. 1999;
2. Putri Dianti M, Setyowati H. LITERATUR REVIEW: FAKTOR-FAKTOR PENYEMBUHAN KEJADIAN LUKA PERINEUM PADA IBU POSTPARTUM. Universitas Ngudi Waluyo; 2021.
3. Adila DR, Saputri D, Niriyah S. Pengalaman Postpartum Blues Pada Ibu Primipara. *J Ners Indones*. 2019;9(2):156-62.
4. Kemenkes RI. Buku kesehatan ibu dan anak. Kementerian Kesehatan dan JICA (Japan Int Coop Agency) Jakarta. 2015;
5. Wulandari SR, Melina F, Kuswanti I, Rosyad YS, Rias YA. RESPON PSIKOLOGIS PEREMPUAN HAMIL SELAMA MASA PANDEMI COVID-19. *J Kesehat*. 2020;11.
6. Triyanti D, Ningsih SS, Anesty TD, Rohmawati S. Faktor-Faktor Yang Berhubungan Dengan Kejadian Ruptur Perineum Pada Ibu Bersalin Di Bpm Fauziah Hatta Palembang Tahun 2017. *Masker Med*. 2017;5(1):152-9.
7. Suprayitno E. Misteri Ikan Gabus. Universitas Brawijaya Press; 2017.
8. Hidayati D, Abdulgani N, Ashuri NM, Sa'adah NN, Lukitasari M. The influence of Cork (*Channa striata*) fish extract to increase hyperglycemic mice fertility based on spermatogenic cell composition. In: *AIP Conference Proceedings*. AIP Publishing LLC; 2017. p. 20015.
9. Pettalolo SR. Efek suplementasi ekstrak ikan gabus dan vitamin c terhadap kadar hemoglobin, leukosit, limfosit, albumin dan imt pada pasien hiv/aids. *GIZI Indones*. 2015;38(1):41-8.
10. Smeltzer SC, Bare BG. Buku ajar keperawatan medikal bedah. Jakarta Egc. 2002;1223:21.
11. Widya Eriyanti Ri. ASUHAN KEBIDANAN PADA NY." A" MASA NIFAS, NEONATUS, DAN KB DI WILAYAH KECAMATAN MOJOSARI KABUPATEN MOJOKERTO. STIKES BINA SEHAT PPNI MOJOKERTO; 2021.