ISSN: 2528-066X (Print), 2599-2880 (Online)

The Effect of Cork Fish (*Channa Striata*) Extract on Perineal Wound in the Work Area of Walantaka Community Health Center in 2020

Nur Afriani, Triana Indrayani, Bunga Tiara Carolin*

Faculty of Midwifery, Universitas Nasional
Corresponden Author : bunga.tiara@civitas.unas.ac.id

Article history:
Received: Aug 2, 2020
Revised: Aug 20, 2020
Accepted: Sep 9, 2020

Background: *Perineal wound occurs because of a tear in birth canal or because of an episiotomy during childbirth. Slow healing of perineal wound can increase the risk of infection, so nutritional intake is needed, especially proteins that support new cell growth.* ***Method:*** *This study utilized a Quasi-Experimental method with type of posstest-only control group design. Population in this study was postpartum mothers, with a total sample of 40 people taken by total sampling technique.* ***Results:*** *Results showed that mean value in control group was 6.9, while mean value in intervention group was 4.8. Additionally, Mann-Whitney U test results obtained p = 0.000. In conclusion, there is an average difference in perineal wound healing between intervention and control groups, and there is an effect of giving cork fish extract (Channa striata) to perineal wound.* ***Conclusion:*** *It is expected that researchers can share this knowledge with postpartum mothers so that they consume cork fish extract as a therapy to accelerate perineal wound healing.*

Keywords:
Healing,
Perineal Wound,
Cork Fish Extract.

I. Introduction

Puerperium is a period of recovery of reproductive organs that changes during pregnancy and childbirth, one of which is a perineal tear that occurs in almost all first deliveries and, sometimes, in subsequent deliveries. Thus, intensive care is needed to speed up healing process and prevent infectious complications that can result from delayed perineal wound healing (Setyowati, 2014)

World Health Organization (WHO) in 2018 pointed out that Maternal Mortality Ratio (MMR) worldwide is 216 deaths per 100,000 live births or around 303,000 maternal deaths during pregnancy or childbirth and 58.1% mostly occur in developing countries which is 302,000 maternal deaths (WHO, 2018).

Based on Indonesian Demographic and Health Survey (IDHS) 2017, MMR in Indonesia is still high, at 359 deaths per 100,000 live births. One of the third Global Sustainable Development Goals (SDGs) targets is to reduce Maternal Mortality Ratio (MMR) in 2030 (Ministry of Health of the Republic of Indonesia, 2017)

Unfortunately, number of maternal deaths in Banten Province in 2018 reached 230 deaths. Direct causes of maternal deaths in Banten province in 2017 included bleeding (87 deaths), hypertension in pregnancy (52 deaths), infections (1 death), circulatory disorders such as heart disease, stroke, etc. (26 deaths), and others (64 deaths). Furthermore, in 2019, number of maternal deaths in Banten province reached 247 deaths (Banten Provincial Office, 2019).

Based on Serang City Health Office in 2019, MMR reached 221 deaths per 100,000 live births with a total of 62 deaths per 28,013 per live births due to bleeding (14 mothers) including uterine atony, infection (4 mothers), severe preeclampsia and eclampsia (16 mothers)), heart disease (11 mothers), tuberculosis (3 mothers), pulmonary edema (3 mothers), brain tumors (1 mother), bleeding (1 mother), encephalitis (1 mother), dyspnea (1 mother), stroke no Herogic (1 mother), Chronic Energy Deficiency/CED and Premature Rupture of Membrane/PROM (1 mother), poisoning (1 mother), water embolism (1 mother), and Ruptured Ectopic Pregnancy (1 mother) (Profile of Serang City Health Office, 2019)

Cork fish (*Channa striata*) is one type of fish that can increase endurance due to high protein and albumin content. Cork fish extract contains 70% protein and 21% albumin. Moreover, cork fish extract also contains complete amino acids and micronutrients of zinc, selenium, and iron. There are also content of allicin, allyl sulfide and *furostanol glycosides* in cork fish (Suprayitno, 2013). Protein and albumin have a significant function as building blocks of cells that have been damaged which will help faster wound healing. Thus, cork fish is very likely to be used by community for wound healing process (Triyanti, 2017).

Furthermore, a study conducted by Susilowati (2019) showed that there are significant differences between treatment and control groups. Overall results of this study indicated that protein and albumin levels can be used as non-pharmacological which functions to treat wound. Besides, cork fish extract contains complete amino acids in repairing damaged body tissue and has a role to increase endurance. Content of albumin which is only 21% of 90% digestibility of cork fish extract causes less albumin protein content that can be absorbed by the body which results in perineal wound healing to a good direction for longer. In this study, intervention group was given cork fish extract 3 x 2 capsules per day for 7 consecutive days.

Based on a survey conducted by researchers during a preliminary study in the work area of Walantaka Community Health Center, there were 8 postpartum mothers who experienced perineal wound, three (37.5%) of whom experienced delayed wound healing (healed more than 7 days), while five (62.5%) of whom experience normal perineal wound healing (healed in 6 to 7 days). It indicates that there is still a problem of delaying perineal wound healing in postpartum mothers (Walantaka Community Health Center, 2020).

Based on the aforementioned description, researchers were interested in conducting research on the effect of giving cork fish extract (*Channa striata*) on perineal wound in the work area of Walantaka Community Health Center, Serang.

II. METHODS

This study utilized a Quasi-Experimental method with type of posstest-only control group design. Population in this study was postpartum mothers, with a total sample of 40 people taken by total sampling technique. Based on results of normality test, data in this study were not normally distributed. Accordingly, Mann-Whitney U test was used.

III. RESULTS

Characteristics of Respondents

Table 1. Characteristics of Respondents in the Work Area of Walantaka Community Health Center, Serang

Characteristics of Respondents	Group			
	Control		Intervention	
	F	%	F	%
Age				
<20 and > 35 years	1	5	0	0
20 – 35 years	19	95	20	100
Occupation				
Unemployed	17	85	14	70
Employed	3	15	6	30
Education				
Low	13	65	11	55
High	7	35	9	45
Parity				
Primipara	19	95	16	80
Multipara	1	5	4	20

Table 4.1 shows that the majority of control group, 19 mothers (95%), are aged 20 - 35 years. There are 17 mothers (85%) not working, 13 mothers (65%) have low education, and 19 mothers (95%) are primipara mothers. In addition, in intervention group, all mothers, 20 mothers (100%), are aged 20-35 years. There are 14 mothers (70%) not working, 11 mothers (55%) have low education, and 16 mothers (80%) are primipara mothers.

Table 2. Average Difference in Perineal Wound Healing between Intervention and Control Groups

Group	N	Mean	Std. Deviation	Std Error
Control	20	6.9	0.30	0.068
Intervention		4.8	0.615	0.137

Based on results in table 2, there is a difference in average length of time for perineal wound healing in control group (6.9) with a standard deviation of 0.30 and a standard error of 0.068. Meanwhile, in intervention group, average length of time for perineal wound healing is 4.8 with a standard deviation of 0.615 and a standard error of 0.137.

Table 3. The Effect of Perineal Wound Healing between Intervention and Control Groups on Mothers in Walantaka Community Health Center, Serang

Group	*N*	Mean Rank	Sum of Ranks	Z	P value
Control Posttest	20	30.40	608	-5.716	0.000
Intervention Posttest		10.60	212		

Based on results in table 3, there is a difference in average length of time for perineal wound healing in control group with a mean rank of 30.40 and in intervention group with a mean rank of 10.60. Based on Statistical Test output, it is known that value of p = 0,000 < 0.05. Thus, it can be concluded that there is an effect of giving cork fish extract to of perineal wound healing.

IV. DISCUSSION

Characteristics of Respondents

Results of this study showed that the majority of control group, 19 mothers (95%), were aged 20 - 35 years. There were 17 mothers (85%) not working, 13 mothers (65%) had low education, and 19 mothers (95%) were primipara mothers. In addition, in intervention group, all mothers, 20 mothers (100%), were aged 20-35 years. There were 14 mothers (70%) not working, 11 mothers (55%) had low education, and 16 mothers (80%) were primipara mothers.

According to Winkjosastro (2015), age is a factor that can influence predisposition to injury and efficiency of wound healing mechanism. Intact skin in healthy young adult organs is a good barrier to mechanical trauma and infection. At the age of 20 years, a significant decrease in some functions begins to occur, such as a decrease in heart efficiency, vital capacity and a decrease immune system efficiency. Perineal tear in mothers with parity or primigravida mothers has a higher risk. Birth spacing of less than 2 years is also included in high-risk category since it can cause complications during childbirth.

Researchers in this study assume that the majority of respondents aged 20-35 years who experience grade II to III perineal tear. This, one of them, is influenced by perineal elasticity which results in easy birth canal tear. Reproductive function of a woman aged > 35 years has decreased

 ISSN: 2528-066X (Print)
ISSN: 2599-2880 (Online)

compared to women aged 20-35 years. In addition, parity is also an influential factor because soft tissue of perineum and structure of birth canal in primipara children will be damaged. It is because during the first childbirth, perineal muscles tend to be stretched and there has never been experience for childbirth. Occupation and education are factors that play an important role in level of knowledge of mothers to carry out proper care of perineal wound, one of which is through nutrition that is needed during healing process.

Average Difference in Perineal Wound Healing between Intervention and Control Groups

Results of this research revealed that there is a difference in average length of time for perineal wound healing in control group (6.9) with a standard deviation of 0.30 and a standard error of 0.068. Meanwhile, in intervention group, average length of time for perineal wound healing is 4.8 with a standard deviation of 0.615 and a standard error of 0.137.

It is in line with Smelzer's theory (2017) that wound healing is a stage of replacement and repair of damaged tissue and begins with repair of perineal wound. Process of wound healing through inflammatory phase begins when tissue is damaged and takes place in 1-4 days during which vasoconstriction of blood vessels occurs to control bleeding by forming platelet plug and fibrin fibers. Furthermore, there is a proliferation phase in which formation of new blood vessels around wound occurs. Basic substance and collagen fibers are formed to begin infiltration of wound. Importantly, epithelial cells develop into capillaries which are sources of complete regenerative tissue nutrition. Collagen supports well within a period of 6-7 days. There are 3 criteria for wound assessment: 1) good, if the wound is dry, perineum closes and there are no signs of infection such as redness, swelling, heat, pain, *fungsiolesa*; 2) moderate, if the wound is wet, perineum closes and there are no signs of infection; and 3) bad, if the wound is wet, perineum opens or closes, and shows signs of infection. The next phase is maturation which is contributed by granulation tissue, namely collagen heap for wound healing that lasts up to a month or even years

Moreover, based on researchers' assumption, average wound healing in control group is 7 days. On day 7, it is still in proliferation phase with signs: wound has no secretions, granulation, wrinkled skin around the wound, collagen tissue that forms wound is formed, epithelium touches and closes entire surface of wound. Besides, in intervention group, average healing time is 4 days. Healing wound for less than 7 days is caused by giving cork fish extract to accelerate perineal wound healing. This fish has high content of protein and albumin.

The effect of cork fish extract (*Channa striata*) on perineal wound in the work area of Walantaka Community Health Center, Serang

Based on results of this study, there is a difference in average length of time for perineal wound healing in control group with a mean rank of 30.40 and in intervention group with a mean rank of 10.60. Based on statistical results, it can be said that there is an effect of giving cork fish extract on perineal wound healing.

This result is in line with a research conducted by Hidayat (2018) that concluded that on day 7, it is still in proliferation phase with signs: wound has no secretions, granulation, wrinkled skin around the wound, collagen tissue that forms wound is formed, epithelium touches and closes entire surface of wound. In this proliferation phase, fibers are formed and destroyed again to adjust to tension in wound that tends to wrinkle. This characteristic, along with contractile properties of myofibroblast, causes traction at wound edges. At the end of this phase, strength of injured strain reaches 25% of normal tissue.

According to researchers' assumption, there is an effect of giving cork fish extract to perineal wound healing since cork 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, its extract is taken by the process of steaming and storing its water. Accordingly, giving cork fish extract in

treatment/intervention group is intended to accelerate perineal wound healing on the grounds that cork fish is one type of fish that contains high protein or albumin.

V. REFERENCES

Dinas Kesehatan Kota Serang. 2019. Buku Profil Dinas Kesehatan Kota Serang.

Dinas Kesehatan Provinsi Banten. 2020. Buku Profil Dinas Kesehatan Provinsi Banten.

Hidayat D., Sasanti AD., dan Yulisman. 2018. Kelangsungan hidup, pertumbuhan dan efisiensi pakan ikan gabus (Channa striata) yang diberi pakan berbahan baku tepung keong mas (Pomacea sp). Jurnal Akuakultur Rawa Indonesia.1(2):161-172

Kementrian Kesehatan RI. 2017. Laporan Hasil Riset Kesehatan Dasar (Riskesdas) Indonesia Tahun 2017. Jakarta

Puskesmas Walantaka. (2020). Data Puskesmas Walantanka.

Smeltzer, S. C. 2017. Keperawatan Medikal Bedah (Handbook for Brunner & Suddarth's Textbook of Medical-Surgical Nursing). Wolters Kluwe healthr.

Suprayitno, Eddy, 2018. Potensi Serum Albumin dari Ikan Gabus. Diambil dari : http://www.gatra.com/artikel.php Diakses pada 01 Agustus 2020

Susilowati & Syara 2019, Pengaruh Mengkonsumsi Putih Telur Terhadap Penyembuhan Luka Post Of Sectio Caesaria Di Ruang Melati Rumah Sakit Umum Deli Serdang Lubuk Pakam Tahun 2011. JPH RECODE 01 Agustus 2020; 2 (2) : 138-145 http://e-journal.unair.ac.id/JPHRECODE

Oka, I. A dan Triyanti (2017). Pengaruh Pemberian Ekstrak Ikan Gabus Terhadap Kadar Interleukin-6 Pada Ibu Nifas Dengan Rupture Perinium. Voice Of Midwifery, 5(07), 65-72.

Wiknjosastro 2015. Ilmu Kebidanan. Jakarta : JNPK-KR – POGI bekerjasama dengan Yayasan Bina Pustaka Sarwono Prawirohardjo. Jakarta

World Health Organization (WHO). 2018. World Health Organization (WHO) dan Angka Kematian Ibu (AKI) ASEAN.