

THE EFFECT OF THE COMBINATION OF TURMERIC POWDER DRINK, MILK POWDER, AND GRANULATED SUGAR (KAK-TUSI) ON THE HEALING OF LACERATION WOUNDS AND PERINEAL PAIN IN POSTPARTUM MOTHERS

Katmini¹, Hidayat Wijayanegara², Alamsyah Aziz³, Yanti Herawati⁴, Teni Nurlatifah⁵, Ma'nun Stusisna⁶

¹Master of Midwifery, STIKes Dharma Husada, Bandung, West Java

^{2,4,5}Magister of Midwifery, STIKes Dharma Husada, Bandung, West Java

³Department of Obstetrics and Gynecology, Faculty of Medicine, Padjadjaran University, Bandung, West Java

⁶Politeknik Negeri Bandung, Bandung, West Java

Email correspondence: katminimedika25@gmail.com

ABSTRAK : PENGARUH KOMBINASI MINUMAN BUBUK KUNYIT, SUSU BUBUK DAN GULA PASIR (KAK-TUSI) TERHADAP PENYEMBUHAN LUKA LASERASI DAN NYERI PERINEUM PADA IBU POSTPARTUM

Pendahuluan: Nyeri laserasi perineum merupakan masalah yang cukup banyak di Asia, 50% dari kejadian nyeri laserasi perineum di dunia terjadi di Asia, di Indonesia 75% ibu melahirkan pervaginam mengalami laserasi perineum, 57% ibu dengan nyeri jahitan aserasi perineum. Perawatan perineum yang tidak benar dapat mengakibatkan kondisi perineum yang terkena lokhea menjadi lembab akan sangat menunjang perkembangbiakan bakteri yang dapat menyebabkan timbulnya infeksi pada perineum. Obat-obatan tradisional telah banyak digunakan oleh masyarakat sebagai alternatif pengobatan selain obat kimia. Kandungan sucrosa dalam gula mampu memberikan efek osmotik yang berkaitan dengan aktivitas air (aw) dalam luka untuk mengontrol tumbuhnya bakteri mampu mensekresi TGF- α , menarik makrofag ke jaringan luka dan mengekspresikan reseptor integrin $\alpha 2$ dan $\beta 1$ yang berfungsi dalam proliferasi fibroblas dan sintesis kolagen. Kandungan yang terdapat dalam susu bubuk dapat membantu menjaga kelembapan yang dibutuhkan untuk penyembuhan luka. Kunyit sudah terbukti secara signifikan sebagai anti inflamasi, antioksidan, anti karsinogenik, anti infeksi dan anti koagulan. Kunyit juga telah terbukti secara signifikan memiliki sifat penyembuhan luka. Tujuan penelitian ini adalah untuk mengetahui Pengaruh minuman serbuk KAK- TUSI dalam Penyembuhan laserasi dan Nyeri Perineum Pada Ibu Postpartum Di KPRI Najwa Medika.

Metode: Penelitian yang digunakan adalah eksperimen semu (kuasi eksperimen) dengan desain *Pretest-Posttest Control Group* menggunakan metode penelitian kuantitatif. Penelitian ini dilakukan pada bulan November – Desember 2023 di Klinik Pratama Rawat Inap Najwa Medika. Pengambilan sampel dalam penelitian ini dengan menggunakan total *sampling* dengan jumlah sampel sebanyak 62 responden yang dibagi menjadi dua kelompok yaitu kelompok kontrol dan kelompok intervensi. Analisis uji statistik menggunakan uji *independent T Test* dengan pendekatan *paired t-test*.

Hasil: Penelitian menunjukkan bahwa pemberian minuman serbuk KAK- TUSI selama 7 hari secara rutin berpengaruh terhadap penyembuhan laserasi dan nyeri perineum derajat I pada ibu postpartum di KPRI Najwa Medika dilihat dari hasil uji statistik nilai kelompok intervensi sebesar 0.39 lebih kecil dibandingkan dengan kelompok kontrol yaitu sebesar 1.52 pada penyembuhan luka perineum dan nilai kelompok intervensi sebesar 0.35 lebih kecil dibandingkan dengan kelompok kontrol yaitu sebesar 1.35

Simpulan: pada penyembuhan nyeri luka perineum dengan p value 0.000 maka dapat diartikan bahwa terdapat pengaruh antara kelompok intervensi dan kelompok kontrol terhadap lama penyembuhan luka luka dan nyeri perineum jika nilai p value < 0.05. Minuman serbuk KAK- TUSI berpengaruh Terhadap Penyembuhan laserasi dan Nyeri Perineum Pada Ibu Postpartum Di KPRI Najwa Medika.

Kata Kunci: Laserasi perineum, minuman serbuk KAK- TUSI, nyeri perineum, penyembuhan

ABSTRACT

Introduction: Perineal laceration pain is quite a problem in Asia, 50% of the incidence of perineal laceration pain in the world occurs in Asia, in Indonesia 75% of vaginal birthing mothers experience perineal laceration, 57% of mothers with perineal aceration suture pain. Improper perineal care can cause the condition of the perineum affected by lochea to become moist will greatly support the proliferation of bacteria that can cause infection in the perineum. Traditional medicines have been widely used by the community as an alternative treatment other than

chemical drugs. The content of sucrose in sugar is able to provide osmotic effects related to water activity (a_w) in wounds to control the growth of bacteria capable of secreting TGF- α , attracting macrophages to wound tissue and expressing α_2 and β_1 integrin receptors that function in fibroblast proliferation and collagen synthesis. The content contained in milk powder can help maintain the moisture needed for wound healing. Turmeric has been significantly proven as an anti-inflammatory, antioxidant, anti-carcinogenic, anti-infective and anti-coagulant. Turmeric has also been shown to have significant wound healing properties. The purpose of this study was to determine the effect of KAK- TUSI powder drink in healing lacerations and perineal pain in postpartum mothers at KPRI Najwa Medika.

Method: The research used is a quasi-experiment with a Pretest-Posttest Control Group design using quantitative research methods. This study was conducted in November - December 2023 at Najwa Medika Inpatient Primary Clinic. Sampling in this study used total sampling with a total sample of 62 respondents divided into two groups, namely the control group and the intervention group. Statistical test analysis using independent T Test with paired t-test approach.

Results: Research shows that giving KAK- TUSI powder drink for 7 days routinely affects the healing of lacerations and grade I perineal pain in postpartum mothers at KPRI Najwa Medika seen from the results of statistical tests the value of the intervention group of 0.39 is smaller than the control group of 1.52 in healing perineal wounds and the value of the intervention group of 0.35 is smaller than the control group which is as much as 1.35.

Conclusion: in healing perineal wound pain with a p value of 0.000, it can be interpreted that there is an influence between the intervention group and the control group on the healing time of wounds and perineal pain if the p value <0.05. KAK- TUSI powder drink affects the healing of lacerations and perineal pain in postpartum mothers at KPRI Najwa Medika.

Keywords: Perineal laceration, KAK- TUSI powder drink, perineal pain, healing.

INTRODUCTION

According to the Sustainable Development Goals (SDGs) data from 2020, the maternal mortality rate (MMR) is still at 359 per 100,000 live births, which is far from the target of 70 per 100,000 live births set for 2030. Data from the 2017 Indonesian Demographic and Health Survey (IDHS) reported a maternal mortality rate of 305 per 100,000 live births, with perineal laceration infections being one of the causes. The maternal mortality rate in various provinces in Indonesia decreased slightly from 4,226 to 4,221. In 2019, the highest contributors to maternal mortality were bleeding (30.3%) and postpartum infection (5%) (Darmawan, 2019).

In 2013 in Depok, 68% of spontaneous deliveries experienced perineal rupture. This data continues to increase from year to year where in 2014 the incidence of perineal rupture in West Java increased to 71% of all deliveries. (Hayati F, 2020).

Based on observations made at the KPRI Najwa Medika research location in August 2023, obtained from medical record data obtained from the maternity ward unit, that the number of spontaneous deliveries in 2022 was 195 deliveries, based on interviews with maternity ward midwives about 85% of deliveries or around 161 mothers experienced perineal rupture, both those experiencing episiotomy and laceration due to the process of labor or spontaneous rupture. As a result of lacerations or perineal ruptures that occur, most mothers complain of pain in the perineal sutures, so that patients feel

uncomfortable when doing activities, handling complaints of pain felt by patients is done in collaboration with specialists, namely giving mefenamic acid / paracetamol according to indications during the postpartum period and there is no non-conventional treatment at the research location.

One of the causes of the complication of the puerperium up to puerperium death is the occurrence of infection in perineal lacerations due to lack of proper care of adequate lacerations so that it can cause secondary bleeding in the puerperium, it can also trigger the onset of infections that are local and general. To prevent infection of the perineal suture laceration. Then the mother's active role is needed in maintaining her own hygiene, because an opening after childbirth is a place for germs to enter the body, causing infection. (Suparyanto, 2015).

Improper perineal care can result in the condition of the perineum affected by lochia becoming moist, which will support the proliferation of bacteria that can cause perineal infection. The emergence of infection in the perineum will lead to complications of birth canal and infection in the birth canal. Handling complications, especially infections in the birth canal that are slow, can lead to the death of postpartum women considering that postpartum women are still weak (Suwiyoga, 2014).

Midwives as one of the health workers closest to the community and as one of the service centers for postpartum women who are responsible for

providing appropriate services and information about problems in the puerperium, especially in the care of perineal lacerations to help heal perineal lacerations and prevent infection. The puerperium begins after the placenta is delivered and ends when the uterus returns to its pre-pregnancy state. is the time needed for the uterus to recover to its normal state.

The puerperium lasts for approximately 6 weeks. Women who go through the puerperium period are called puerperium (puerperium) lasts between 6 weeks and 8 weeks, it is very important for a midwife to know about normal psychological adjustments so that she can assess whether a mother needs special care during this puerperium, a variation or deviation from normal and common adjustments (Suwiyoga, 2014).

The cause of perineal laceration can be caused by 2 factors, namely maternal indications and fetal indications such as large babies, macrosomia, shoulder dystocia, abnormal position, fetal distress. Many factors affect the healing of perineal lacerations including knowledge, environment, tradition, socioeconomics, staff handling, maternal condition, early mobilization, *vulva hygiene*, wound area, age, vascularization, *stressors*, and nutrition. (Maund, E., McDaid, C., Rice, S., Wright, K., Jenkins, B., & Woolacott, 2011).

Conventional and non-conventional methods can be a solution for postpartum women who experience perineal pain. Pain management with conventional methods is still controversial, this is because it uses drugs with chemical substances that will have a negative effect on the mother and baby. For example, the use of anti-pain analgesics such as paracetamol where Paracetamol (acetaminophen) is an analgesic and antipyretic with a slight anti-inflammatory effect, whose exact mode of action is currently unknown. It is the most widely used drug for pain relief, although used in the short term, it can cause adverse effects on the gastrointestinal tract ranging from abdominal pain, dyspepsia, and superficial erosions to serious gastrointestinal complications such as perforated gastric ulcers and life-threatening gastrointestinal bleeding. (Maund, E., McDaid, C., Rice, S., Wright, K., Jenkins, B., & Woolacott, 2011).. The use and utilization of traditional medicine in Indonesia is progressing very rapidly. Traditional medicines have been widely used by the community as an alternative to chemical drugs. Turmeric has been significantly proven as anti-inflammatory, antioxidant, anti-carcinogenic, anti-infectious and anti-coagulant. (Akbik, D., Ghadiri, M., Chrzanowski, W., & Rohanzadeh, 2014).

Treatment of lacerations traditionally uses

natural ingredients such as red betel nut, sour turmeric herb, binahong etc., which have been proven to have chemical components that can kill *Staphylococcus aureus* bacteria and *Candida Albicans* fungi which can accelerate the healing process. (Sari, 2016). The content in this turmeric plant is saponins, flavonoids, tannins and essential oils which can help the healing process of lacerations and is very functional for antioxidants and antimicrobials so that it affects the healing process of lacerations and accelerates epitalization (Berlian, Z., Pane, ER., Hartati, 2017).

Research from Wathoni contained in the pharmaceutics magazine with the title "Reasons Curcumin Effectively Accelerates Healing of Lacerations in the Skin" that, curcumin is the main curcuminoid in turmeric which is responsible for the yellow color. Curcumin has anti-inflammatory, anti-oxidant, anti-carcinogenic, anti-mutagenic, anti-coagulant and anti-infective effects and has been shown to significantly improve the healing ability of lacerations (Wathoni., 2016).

Traditionally turmeric is used by consumption because turmeric itself has anti-inflammatory, anti-oxidant, anticarcinogenic, anti-infective and coagulation content so that by consuming the content in turmeric can work well, so that it can accelerate the wound healing process. (Pawar, R., Toppo, F., Shaikh., 2015). Turmeric (*Curcuma longa* L) contains curcumin compounds that can inhibit COX-2 activity. So that when COX-2 inhibition occurs, the formation of prostaglandins will be inhibited, so that there will be a decrease in body temperature in a state of fever. (Fahryl, N., Carolia, 2019).

The utilization of sugar as wound therapy has also been used since ancient times. The *sucrose* content in sugar is able to provide osmotic effects related to water activity (aw) in the wound to control the growth of bacteria and is able to secrete TGF- α , attract macrophages to wound tissue and express integrin $\alpha 2$ and $\beta 1$ receptors that function in fibroblast proliferation and collagen synthesis. In line with research conducted by Supriya Thambireddy, Nirmala SVSG, Sivakumar Nuvvula entitled "Sucrose solution to reduce needle-stick pain during inferior alveolar nerve block in children aged 7-10 years: a randomized clinical trial" with the results of the study Oral *sucrose* administration can relieve pain due to inferior alveolar nerve block in children. (Suwiyoga, 2014).

The healing process of lacerations requires high energy (Rahayu, Said, Sansuwito, 2023). This energy can be obtained from carbohydrates, one of which is sourced from sugar (Abed, Mohamed and

Saied El-Nagger, 2012). Energy is needed to carry out all the processes that occur in the body including wound healing. The process of forming a new cell or structure will require more energy. Apart from being the main source of energy, carbohydrates also play a role in stimulating fibroblasts and stimulating collagen formation.

In addition to the turmeric and sugar ingredients that help speed up the healing process, other ingredients such as milk powder can also help speed up wound healing (Handayani, 2015). Milk powder is a dairy product obtained by reducing most of the water through the process of drying fresh milk and/or recombined milk, or dry blending (Biswas *et al.*, 2019). The ingredients contained in milk powder can help maintain the moisture needed to accelerate laceration healing and increase blood flow to the wound. (Daika, SE., Sri, 2016). The phosphorus content in milk powder is also able to reduce pain like thiamine found in turmeric content.

In the results of research conducted by Susanti (2018), using turmeric, tamarind and brown sugar, with the dose given 165 mg / kgBB. The ratio between turmeric, sugar and tamarind is 3: 1: 1. With the comparison of the control group given Amoxicillin tablets 500 mg. It was found that the combination of tamarind turmeric drink can accelerate the union of perineal wounds . This KAK- TUSI powder drink product has ingredients that have been tested in the laboratory so that it is safe for consumption for healing lacerations and perineal pain. Turmeric powder (*Curcuma longa L*), combined with milk powder (*Lac pulveris*), and granulated sugar (*Sucrose*) to maintain the original color of turmeric, eliminate the smell of turmeric and add to the enjoyment of taste in the presentation of innovative products researchers . With a ratio of 5: 6 : 4 for each ingredient of turmeric, milk powder, and granulated sugar or about 1.66 g of turmeric, 1.91 g of milk powder and 1.33 granulated sugar in every 5 gram sachet of combination powder.

RESEARCH METHODS

Quasi-experimental design method with Pretest-Posttest Control Group. The independent variable of this research is KAK-TUSI powder drink. Dependent variables of this study were laceration wound healing and perineal pain. The population in this study were all postpartum mothers who experienced 1st degree perineal laceration as many as 62 people at the Najwa Medika Inpatient Primary Clinic for the period November - December 2023. The sampling technique in this study was total sampling. The instrument in this study was an observation sheet. The observation sheet used was an observation

sheet to see laceration healing and perineal pain which was observed for 7 days. Assessing perineal wound pain felt by postpartum mothers using a pain scale observation sheet on days 1, 5 and 7. Descriptive analysis is used to describe, illustrate, describe, or describe each research variable and produce frequency distribution, percentage, mean, standard deviation, minimum, and maximum scores so that they are easily understood. Descriptive statistical calculations used the help of the SPSS 21 application. Bivariate analysis to test the effect of giving KAK- TUSI powder drinks. Data analysis was carried out using the Independent T Test.

RESEARCH RESULTS

Table 1
Frequency Distribution of Pretest and Posttest Score of Perineal Wound Healing

Healing Time Score		P-value
Pretest	Posttest	
1.37 ± 0.633	0.84 ± 0.814	0.000

*Paired Sample T - Test

Table 2
Frequency Distribution of Pretest and Posttest Score of Perineal Pain Healing

Perineal Pain Score		P-value
Pretest	Posttest	
1.40 ± 0.586	0.81 ± 0.786	0.000

*Paired Sample T - Test

Table 3
Difference in Laceration Wound Healing Score in Intervention Group and Control Group

Wound healing time difference score		P-value
Control	Intervention	
1.52 ± 0.508	0.16 ± 0.374	0.000

*Paired Sample T- Test

Table 4
Difference in Laceration Pain Score between Intervention Group and Control Group

Wound Pain Difference Score		P-value
Control	Intervention	
1.45 ± 0.506	0.16 ± 0.374	0.000

* Paired Sample T- Test

Table 5
Effect of KAK- TUSI Powder Drink with
Paracetamol Tablets on Duration of Laceration
Healing

Laceration Healing Score		P-value
Control	Intervention	
1.52 ± 0.508	0.39 ± 0.459	0.000

*Independent T - Test

Table 6 Effect of KAK- TUSI Powder Drink with
Paracetamol Tablets on Duration of Laceration
Healing

Laceration Healing Score		P-value
Control	Intervention	
1.35 ± 0.486	0.35 ± 0.486	0.000

*Independent T - Test

From the analysis of the distribution of respondent characteristics, it was found that the sample of 1st degree laceration and pain was mostly in the age range of 16-25 years with a proportion of 64%, at the age of 26-35 by 26% and at the age of 36-45 years by 10%. While in the control group 58% were mostly at the age of 16-25 years, then at the age of 26-35 years 39%, and 3% at the age range of 36-45 years.

Age is one of the factors that can affect wound healing. Wound healing is faster in young people than in old people. Because the function of tissue unification in the skin of postpartum mothers who are no longer of reproductive age has decreased due to age factors. (Smeltzer, 2019; Karimah *et al.*, 2019). This research is supported by Sampe (2018), which states that there is a relationship between age and the healing process of episiotomy wounds. The existence of a relationship between age and the length of healing of perineal wounds in this study was due to many respondents with an average age of 20-35 years as much as 59.4%.

Age is a risk factor that affects the healing process of perineal wounds. This is due to the aging process which has an effect in delaying the wound healing process, but there is no actual decrease in the quality of healing. (Handayani., 2015). Delayed wound healing in the elderly is related to a delayed inflammatory response of T cells to the wound area due to chemokine production and macrophage phagocytosis (Muchaymien *et al.*, 2014).

In the results of research conducted at KPRI Najwa Medika between the provision of KAK- TUSI powder drink and the provision of paracetamol tablets for healing lacerations and perineal pain in

postpartum women which was carried out for 7 days routinely, there were differences between the intervention group and the control group, where from the results of the research conducted there were 20 postpartum women in the intervention group who had a faster healing time for lacerations and perineal pain compared to the control group of 12 postpartum women. In this case it can be interpreted that there is a difference between the intervention group given KAK- TUSI powder drink and the control group given paracetamol tablets.

This is in line with the results of research from (Wathoni, 2016) contained in *Pharmaceutics Magazine* with the title "The Reason Curcumin Effectively Accelerates Wound Healing in the Skin" that curcumin is the main curcuminoid in turmeric which is responsible for the yellow color. Curcumin has anti-inflammatory, anti-oxidant, anti-carcinogenic, anti-mutagenic, anti-coagulant and anti-infective effects and has been shown to significantly improve wound healing ability (Anggraini *et al.*, 2022). The mechanism of action of turmeric on wounds is by inhibiting cyclooxygenase (COX-2) and lipooxygenase (LOX) enzymes that play a role in the inflammatory process, accelerating tissue re-epithelialization, cell proliferation, and collagen synthesis. (Milasari, M., Jamaluddin, AW., Mulyono, 2018).

In general, physiological healing of perineal wounds in the postpartum period takes 6-7 days to form new tissues that will The ideal antiseptic properties are able to kill a wide range of microorganisms, remain effective against various types of covering the entire perineal wound. (Santy, E., Putri, 2020). Based on research conducted by researchers at KPRI Najwa Medika by giving KAK- TUSI powder drink to the intervention group, the intervention group experienced faster healing time of lacerations and perineal pain compared to the control group.

The results of this study are in line with research conducted by (Susanti, 2018) showing that turmeric, tamarind and brown sugar drinks by drinking every day can accelerate the length of wound healing and pain in the perineum less than 7 days, the assessment of perineal wound healing is carried out using the REEDA assessment standard. (Susanti, 2018).

The results showed that the use of KAK- TUSI powder drink for 7 days routinely had an effect on laceration wound healing and first degree perineal pain in postpartum women at KPRI Najwa Medika. Judging from the results of statistical tests, the value of the intervention group of 0.39 is smaller than the control group of 1.52 in perineal wound healing and

the value of the intervention group of 0.35 is smaller than the control group of 1.35.

Midwives as one of the health workers closest to the community and as one of the service centers for postpartum women are responsible for providing appropriate services and information regarding problems in the postpartum period, especially in laceration care to help heal lacerated wounds and prevent infection (Thambireddy, S., Nirmala, SVSG, 2023). Midwives should be aware of the relevance of their services and the potential impact, both positive and negative, of the recommended treatment on laceration healing. The maintenance of effective pain relief must be balanced with the need to promote wound healing (Mayadi, Fitri and Kiftia, 2022; Nurhayati, Rahmawati and Yulianti, 2024).

In healing perineal wound pain with a *p value* of 0.000, it can be interpreted that there is an influence between the intervention group and the control group on the length of wound healing and perineal pain if the *p value* <0.05. There were 62 postpartum mothers who experienced lacerations and perineal pain of the first degree, each postpartum mother was divided into two groups, namely 31 intervention groups and 31 control groups. From the results of the data obtained that in the control group the problem of wound pain was resolved earlier than the problem of laceration healing. Because paracetamol itself has properties as an anti-pyretic. Whereas in the intervention group or the provision of KAK- TUSI drinks, the problem that was resolved first was in faster wound healing, because the natural ingredients of KAK- TUSI powder drinks were more to help the wound healing process.

Curcumin also contains antioxidants that can neutralize free radicals and increase the activity of the body's antioxidant enzymes (Abdurahman, Eka Putri, 2020; Khalefa El-Saidy, 2018). The curcumin content is also able to improve the wound healing process (Astuti, KEW., Handajani, 2018).

In this study, observation of wound and pain of first degree perineal laceration was carried out for 7 days by paying attention to the condition of wound tissue repair, infection and pain. The treatment given to the control group and intervention group by respondents was also recorded to be used as reference material in the process of wound healing and pain of first degree perineal laceration in postpartum mothers.

Treatment in the intervention group with the use of KAK- TUSI powder drink for 7 days routinely given 2x1 day (morning and night) as much as 2 sachets / day (10 gr / day) and in the control group given conventional treatment for 7 days routinely.

The utilization of turmeric as an ingredient consumed by postpartum women has been done since long ago in Indonesia, especially in the Java Island region. The content of turmeric has also been proven as an ingredient for wound care and skin beauty. The results of this study concluded that there was an effect of consumption of KAK- TUSI powder drink for 7 days routinely on accelerating the healing of lacerations and perineal pain of degree I in postpartum women at KPRI Najwa Medika.

This study is in line with the book Ravindran P N, Nirmal B K, Sivaraman K where turmeric For ancient Indians, turmeric was "Oushadhi - the medicinal herb," and perhaps turmeric played a big role in the daily lives of ancient Indians as a wound healer, as a remedy for stomach aches, and as a medicine. (National-BSN., 2015). Pain is an unpleasant sensory and emotional experience associated with tissue damage. Sugar (*Sucrose*) is a sweet solution that has pain relieving properties. In line with research conducted by Thambireddy S, Nirmala SVSG and Nuvvula S that *Sucrose* solution can reduce pain due to needles during inferior alveolar nerve block. (Thambireddy, S., Nirmala, SVSG., 2023).

CONCLUSION

There is a difference between giving KAK- TUSI powder drink and giving paracetamol tablets on healing lacerations and perineal pain in postpartum women at KPRI Najwa Medika in 2023. KAK- TUSI powder drink has an effect on healing lacerations and perineal pain in postpartum women at KPRI Najwa Medika in 2023.

SUGGESTION

KAK- TUSI powder drink can be drunk as an alternative to overcome the problem of laceration and perineal pain after childbirth by performing perineal wound care. KAK- TUSI powder drink can also be socialized as an herbal innovation product in the management of laceration and perineal pain cases so as to expand the number of variables and review more sources and references related to innovation products.

REFERENCES

- Abdurahman, E.S., Eka Putri, T. and M.Keb, L. (2020) 'Hubungan Pemberian Tambahan Putih Telur Terhadap Percepatan Penyembuhan Luka Perineum Derajat II Pada Ibu Nifas Di Bpm Utin Mulia Tahun 2019', *Jurnal Kebidanan Khatulistiwa*, 6(1), p. 22. Available at: <https://doi.org/10.30602/jkk.v6i1.506>.

- Abed, H., Mohamed, E.-A. and Saied El-Nagger, N. (2012) 'Effect of Self Perineal Care Instructions on Episiotomy Pain and Wound Healing of Postpartum Women', *Journal of American Science*, 88(66), pp. 640–650.
- Akbik, D., Ghadiri, M., Chrzanowski, W., & Rohanizadeh, R. (2014) 'Curcumin as a wound healing agent', *J Life Sciences*, 116(1), pp. 1–7.
- Anggraini, P. et al. (2022) 'Jurnal Kebidanan Terkini (Current Midwifery Journal) Untuk penyembuhan luka perineum di pmb siti julaeha kota pekanbaru tahun 2021', *Jurnal Kebidanan Terkini*, 2, pp. 201–208.
- Astuti, KEW., Handajani, S. (2018) 'Efektifitas jamu Anti Inflamasi Formulasi Kunyit (Curcuma Longa), Daun Binahong (Anredera Cordifolia) Dan Daun Sambiloto (Andrographis Paniculata) Terhadap Luka Sayat Pada Kelinci', *J Ilmu Kesehatan*, 7(2), pp. 14–9.
- Berlian, Z., Pane, ER., Hartati, S. (2017) 'Efektivitas kunyit (Curcuma longa) sebagai pereduksi formalin pada tahu', *J Sain Health*, 1(1), p. 1.
- Biswas, A. et al. (2010) 'Use of sugar on the healing of diabetic ulcers: A review', *Journal of Diabetes Science and Technology*, 4(5), pp. 1139–1145. Available at: <https://doi.org/10.1177/193229681000400512>.
- Daika, SE., Sri, U. (2016) 'Pengaruh penggunaan bahan dasar dan jenis gula terhadap tebal lapisan dan uji organeleptik nata sebagai petunjuk pratikum biologi'.
- Darmawan, D. (2019) *Profil Kesehatan Indonesia 2019*.
- Fahryl, N., Carolia, N. (2019) 'Kunyit (Curcuma longa val) sebagai terapi arthritis gout', *J Majority*, 8(1), pp. 251–255.
- Handayani. (2015) 'Faktor yang Mempengaruhi Penyembuhan Luka Perineum Pada Ibu PostPartum', *LINK*, 11(3).
- Hayati, F. (2020) 'Personal hygiene pada masa nifas', *J Abdimas Kesehatan (JAK)*, 1(2).
- Karimah, N. et al. (2019) 'The Period of Perineal Wound Healing in Postpartum Mothers Between The Decoction Water Treatments of Bihanong Leaves with Red Betel Leaves', *GHMJ (Global Health Management Journal)*, 3(3), p. 107. Available at: <https://doi.org/10.35898/ghmj-33454>.
- Khalefa El-Saidy, T.M. (2018) 'Effect of Applying Crushed Ice Gel Pads on Episiotomy Pain and Wound Healing Among Postpartum Primiparous Women', *International Journal of Nursing Didactics*, 08(07), pp. 19–29.
- Available at: <https://doi.org/10.15520/ijnd.v8i07.2223>.
- Maund, E., McDaid, C., Rice, S., Wright, K., Jenkins, B., & Woolacott, N. (2011) 'Paracetamol and selective and non-selective non-steroidal anti-inflammatory drugs for the reduction in morphine-related side-effects after major surgery: a systematic review.', *British journal of anaesthesia*, 106(3), pp. 292–297.
- Mayadi, T., Fitri, A. and Kiftia, M. (2022) 'Asuhan Keperawatan Persalinan Normal Rupture Perineum Derajat I: Suatu Studi Kasus Nursing Care For First-Degree Perineal Tears In Normal Delivery : A Case Study asuhan keperawatan pada klien dengan persalinan normal rupture perineum derajat I di ruang b', *JIM FKep*, 1(1), pp. 143–149.
- Milasari, M., Jamaluddin, AW., Mulyono, A. (2018) 'Pengaruh Salep Ekstrak Kunyit Kuning (Curcuma longa Linn) Terhadap Penyembuhan Luka Sayat Pada Tikus Putih (Ratus norvegicus)', *Ilm Ibnu Sina*, 8(1), p. 119.
- Muchaymien, Y. et al. (2014) 'Yusuf Muchaymien et al SOP Gula Merah Kelapa', *Industri dan Hasil Pertanian*, 19(2), pp. 205–217.
- Nasional-BSN., B.S. (2015) *Susu Bubuk*. Jakarta: SNI 2970.
- Nurhayati, R., Rahmawati, N.A. and Yulianti, A. (2024) 'View of Effect of Static Contraction on The Rate of Healing of Perineal Wounds in Postpartum Mothers with Perineal Tears', 17(2), pp. 117–124. Available at: <https://doi.org/10.23917/jk.v17i2.3719>.
- Pawar, R., Toppo, F., Shaikh., S. (2015) 'Exploring the role of curcumin containing ethanolic extract obtained from Curcuma longa (rhizomes) against retardation of wound healing process by aspirin', *Indian J Pharmacol*, 47(2), pp. 160–6.
- Rahayu, S., Said, S.M. and Sansuwito, T. Bin (2023) 'International Journal of Health Sciences (IJHS) International Journal of Health Sciences (IJHS)', *International Journal of Health Sciences (IJHS)*, 1(2), pp. 37–44.
- Santy, E., Putri, T. (2020) 'Percepatan Penyembuhan Luka Perineum Derajat li Pada Ibu Nifas Di Bpm Utin Mulia Tahun 2019 korelasi pemberian telur putih dini terhadap percepatan penyembuhan luka perineum derajat II', *J Ilmu Kesehatan*, 6(1), pp. 22–26.
- Sari, A. (2016) 'Analisis Jalur Faktor-faktor yang Mempengaruhi Angka Kematian Ibu di Jawa Timur.', *JMPM J Mat dan Pendidik Mat*, 1(2), p. 119.

- Smeltzer. (2019) *Keperawatan Medikal Bedah*. 8th edn. Jakarta: EGC.
- Suparyanto (2015) *Buku Panduan Praktis Pelayanan Kesehatan Maternal*. Jakarta: Yayasan Bina Pustaka.
- Susanti, D. (2018) 'Pengaruh Konsumsi Minuman Kunyit Asam Terhadap Lama Penyatuan Luka Perineum Ibu Nifas', *Jurnal Kesehatan dan Sains*, 2(1), pp. 20–1.
- Suwiyoga (2014) *Ilmu Kebidanan*. Jakarta: Salemba Medika.
- Thambireddy, S., Nirmala, SVSG., N.S. (2023) 'Larutan sucrosa untuk mengurangi nyeri akibat jarum suntik selama blok saraf alveolar inferior pada anak usia 7-10 tahun: uji klinis acak.', *J Dent Anesth Pain Med*, 23(5), pp. 273–280. Available at: <https://doi.org/https://doi.org/10.17245/jdapm.2023.23.5.273>.
- Wathoni., N. (2016) 'Alasan kurkumin efektif mempercepat penyembuhan laserasi di kulit', *Majalah Farmasetika*, pp. 1–3.