

Research Article

The Effectiveness of Papaya Leaf Decoction on Reducing Pain in Post-Partum Mothers at Midwife Nurfitriana's Independent Practice

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Abstract. The purpose of this study was to determine the effectiveness of papaya leaf boiled water in reducing pain in post-partum mothers in the work area of PTMB Nurfitriana. Research Methods: This study used a quasi-experimental with purposive sampling with a sample of 32 people. Data techniques included in Uivariate analysis using frequency distribution and bivariate analysis using calculations. The results of this study found that respondents in the control group and the intervention group in the experimental group after being given papaya leaf boiled water, that most of the post-partum mothers experienced no pain as many as 6 people, 8 people experienced mild pain levels and 2 people experienced moderate pain levels. There was a decrease in pain in the intervention group so that it proved the effectiveness of giving papaya leaf boiled water to pain levels in postpartum mothers at TPMB Nurfitriana.

Keywords: *Papaya Leaf Boiled Water, Post-Partum Pain, Post-Partum Mother.*

A. INTRODUCTION

Childbirth often causes bleeding that can lead to death. About 75% of deaths during childbirth are caused by bleeding. Apart from that, infections (usually postpartum), high blood pressure during pregnancy (preeclampsia/eclampsia), prolonged/obstructed labour, unsafe abortions also contribute to the causes of death in pregnant women (Endang, 2019; Airaodion et al., 2019; Widowati et al., 2020).

The mortality rate in the City of West Java Province is still relatively high, namely 416 cases in 2020. The causes of maternal death are still dominated by bleeding 28% and hypertension 29%, although other causes are still high at 24% (West Java Provincial Health Office, 2020). To reduce complications due to childbirth, postpartum maternal health services must be carried out at least three times according to the recommended schedule. Coverage of postpartum mother visits (KF3) in Indonesia in 2018 was 85.92% and decreased in 2019 by 78.78% (Ministry of Health RI, 2019).

According to Trisnawati D (2021) and Pohan (2022) labor pain is caused by dilatation or thinning of the cervix, stretching of the pelvic floor muscles during labor episiotomy. Thinning of the cervix that occurs continuously will cause pain. A more severe cause of pain in women of high parity is a concomitant decrease in uterine muscle tone, causing intermittent relaxation. In primiparous women, the muscle tone is still strong and the uterus remains contracted without intermittent relaxation. In lactating women, suckling stimulates the production of oxytocin by the posterior pituitary (Omara et al., 2020; Mahalik, 2020). The release of oxytocin not only triggers the let down reflex in the breasts, but also causes uterine contractions. Pain after childbirth will disappear if the uterus continues to contract properly when the bladder is empty. A full bladder changes the position of the uterus upwards, causing

relaxation and more painful uterine contractions (Suryandri, 2019; Surendran et al., 2022; Osuntokun, 2021).

Basically, pain in the puerperium can be treated in various ways. Management of pain in the puerperium should be conservative accompanied by changes in diet, emotional support, and alternative therapies such as herbs derived from plants. One of the plants that can overcome pain due to uterine involution is papaya leaves. Papaya leaf is a medicinal plant which is known to have empirical efficacy as an analgesic. Alternative therapy (non-pharmacological) is needed to reduce pain in post-partum mothers where using pharmacological drugs will have side effects on health (Prasad et al., 2021; Rahayu et al., 2020). When using non-pharmacological therapy, namely using papaya leaf decoction, there are fewer side effects compared to pharmacological drugs. Indonesian people achieve a healthy life often cannot be separated from traditional medicine which has been passed down from their ancestors for generations. One of them is that papaya leaves have benefits as traditional medicine, namely as a fever reducer, reducing pain during menstruation and relieving pain (Rahmah et al., 2020; Rosalia & Susandarini, 2020).

The psychological condition of severe pain that is felt will cause anxiety, fear and tension. This feeling will trigger an increase in the hormone prostaglandin which causes stress. Stress will affect the body's ability to withstand the pain that is felt.

According to Liana (2018) papaya leaves can reduce uterine involution through inhibition of prostaglandin biosynthesis due to its vitamin E content. Vitamin E suppresses the activity of the phospholipase A and cyclooxygenase enzymes through inhibition of post-translational cyclooxygenase activity. Preferably vitamin E also increases the production of prostacyclin and PGE2 which functions as a vasodilator which can relax uterine smooth muscle. In addition, the magnesium content contained in papaya leaves is used as a pain therapy because magnesium has a direct effect on blood vessel pressure and regulates the influx of calcium into smooth muscle cells, so that it can affect contraction, tension and relaxation of uterine smooth muscle.

Papaya is a fruit that is widely consumed and is a fruit that ripens quickly after being harvested, grows in fertile moist soil and is not waterlogged. The fruit, flowers and young leaves are edible (Awang et al., 2021; Elliot et al., 2020). Three Benefits of papaya fruit as a digestive aid, stabilize body heat, cure stomach ulcers, strengthen the stomach and antiscorbut. Half-ripe papaya fruit is used to facilitate urine, launch breast milk (ASI) and abortivum. Papaya leaves provide benefits as reducing fever, increasing appetite, launching menstruation and relieving pain (analgesic) (Lasarus, et al, 2020; Lee et al., 2019).

Papaya leaves contain various enzymes, one of which is the papain enzyme which has activity as an analgesic and anti-inflammatory (Muhamad, A, 2018). Alternative therapy (non-pharmacological) is needed to reduce pain in post partum mothers where using pharmacological drugs will have side effects on health. When using papaya leaf decoction, the side effects are less and it's easy to find. Several studies have been conducted on the effectiveness of papaya leaves to reduce pain during menstruation (Muhamad, A, 2018; Chassagne et al., 2022).

B. METHOD

This study uses a quantitative research type with a quasi-experimental research design with a one group design with pretest-posttest. The research design was carried out in two groups, namely the intervention group and the group that was not given intervention, measurements were taken before and after the intervention. In this study, researchers wanted to assess the effectiveness of papaya leaves in reducing pain in post-partum mothers in the Working Area of TPMB Nurfitriana. The research location was carried out in the Nurfitriana

TPMB Working Area for approximately 3 months, from August to October 2022. The dependent variable in this study was pain intensity in post-partum mothers and the independent variable in this study was papaya leaf boiled water. The measuring instruments used in this study were researchers using a pain scale with a Numeric rating scale (NRS) (pain ruler 0-10 cm) to measure the intensity of post-partum pain using a questionnaire, along with an assessment with the NRS scale.

According to Sugiyono (2019) population is a generalized area consisting of objects or subjects that have certain quantities and characteristics. The population in this study were post-partum mothers in the Working Area of TPMB Nurfitriana as many as 32 Post-Partum mothers for the period from October to December 2022. The sample selection technique used a total sampling technique, which is a sampling technique where the number of samples is the same as the population (Sugiyono, 2012). Data analysis using the Paired T-Test is a parametric test that can be used on two paired data. If the P value is less than 0.05, then the hypothesis is significant.

C. RESULT AND DISUCSSION

1. Distribution of Pain Frequency in Post-Partum Mothers

From the results of the research that has been done, in the control group there were 18.75% of mothers who experienced mild pain, 50% experienced moderate pain, and 31.25% experienced severe pain before being given papaya leaf boiled water and post-partum mothers in the experimental group before being given papaya leaf boiled water mostly experienced mild pain 25%, moderate pain level as much as 50% and those who experienced severe pain level as much as 25%. After being given papaya leaf decoction, it was found that post-partum mothers in the experimental group experienced no pain as much as 37.50%, mild pain level as much as 50% and those who experienced moderate pain level as much as 12.50%.

Based on the univariate analysis carried out to see the pain level of post partum mothers before and after being given papaya leaf boiled water in the control and experimental groups, the average value of post partum mothers' pain before being given papaya leaf boiled water was 5.37 and after being given boiled water papaya leaves to 1.68.

In accordance with research conducted by Puspita, et al (2019) which stated that there was effectiveness of papaya leaf decoction for reducing pain, the research was conducted experimentally on 18 Post-Partum mothers who obtained bivariate results that $pvalue = 0.000 < 0.05$ which means papaya leaf water decoction is effective in reducing pain in post partum mothers.

Factors that cause labor pain, namely uterine muscle contractions will cause dilatation and thinning of the cervix, as well as uterine ischemia due to contraction of the myometrial arteries, the mother will only feel pain during the contractions and will not feel pain during the intervals between contractions and there is stretching of the pelvic floor muscles. which is felt when approaching the second stage is caused by stretching of the pelvic floor muscles due to a decrease in the lowest part of the fetus. This pain is usually felt in the vaginal area, rectum, perineum, and around the anus. Causes of labor pain according to (Trisnawati D, 2021; Sagonov, 2022).

During the postpartum period, pain problems often arise in post partum mothers. Pain is a disease characterized by an unpleasant sensation that only the person experiencing it can accurately describe, because everyone's experience of pain and discomfort is different. Pain is an uncomfortable sensory and emotional experience that occurs as a result of tissue damage, or existing or future tissue damage (Aydede, 2017). According to Alina (2019), basically postpartum pain can be treated in various ways. Management of pain in the puerperium should be conservative accompanied by changes in diet, emotional support, and alternative therapies

such as herbs derived from plants. One of the plants that can overcome pain due to uterine involution is papaya leaves.

2. Effectiveness of Papaya Leaf Decoction Against Post-Partum Labor Pain

Based on the results of this study, it was found that the mean pre-test was 5.6 and the post-test was 1.8 so that the mean difference was 3.8 ($5.6 - 1.8$) and P value = 0.006008684. If the P Value is less than 0.05, then the hypothesis is significant so it can be concluded that there is effectiveness of papaya leaf boiled water in reducing pain in post partum mothers at TPMB Nurfitriana.

This is in line with research conducted by Tutiana in 2018 concerning "The effect of papaya leaf decoction on reducing pain in post partum mothers at BPM Besari". In his research, it was found that there was an effect of papaya leaf decoction on reducing pain in post partum mothers with a P -Value of 0.023 ($p < 0.05$). According to Stella et al.'s research, the ethanol extract of papaya leaves has an analgesic effect due to the content of flavonoids. Flavonoids act as analgesics whose mechanism of action is to inhibit the action of the cyclooxygenase enzyme. Thus it will reduce the production of prostaglandins by arachidonic acid thereby reducing pain (Gunawan, 2018).

Papaya leaves contain vitamin E which can reduce uterine involution through inhibition of prostaglandin biosynthesis where vitamin E will suppress the activity of phospholipase A and cyclooxygenase enzymes through inhibition of cyclooxygenase post translational activity. Preferably vitamin E also increases the production of prostacyclin and PGE2 which functions as a vasodilator which can relax uterine smooth muscle. In addition, the magnesium content found in papaya leaves is used as a pain therapy because magnesium has a direct effect on blood vessel pressure and regulates the entry of calcium into smooth muscle cells, so that it can affect contraction, tension and relaxation of uterine smooth muscle (Liana, 2018). Papaya leaves also contain various compounds such as flavonoids, papain enzymes, saccharose, dextrose, levulose, protein, carbohydrates, calcium, phosphorus, iron, vitamin A, vitamin B1, vitamin C, water and calories. Flavonoids are compounds that can protect lipid membranes from damage and inhibit the cyclooxygenase I enzyme, which is the first pathway for the synthesis of pain mediators such as prostaglandins. Papaya leaves contain various enzymes, one of which is the papain enzyme which has activity as an analgesic and anti-inflammatory (Muhamad, A, 2018).

According to the researchers' assumptions, alternative therapy (non-pharmacological) is needed to reduce pain in post partum mothers where using pharmacological drugs will have side effects on health. If you use papaya leaf boiled water, the side effects are less and it's easy to find. In addition, papaya leaf decoction is very effective in reducing pain in post partum mothers. This is because the content of papaya leaves contains enzymes, one of which is the papain enzyme which has activity as an analgesic and anti-inflammatory, so it can reduce pain in post partum mothers. However, from the results of the study, it was obtained that 2 respondents did not experience a change in pain, this was due to other factors where the mother consumed milk so that the milk content inhibited the absorption of the content from the papaya leaf boiled water.

D. CONCLUSION

Based on the results of research on the effectiveness of papaya leaf boiled water in reducing pain in post partum mothers in the Nurfitriana TPMB area, the mean pre test T test results were 5.6 and the post test was 1.8, so the mean difference was 3.8 ($5.6 - 1.8$) and P value = 0.006008684, it can be concluded that most post partum mothers experience postpartum pain, and after being given papaya leaf decoction the level of pain in mothers has

decreased. therefore researchers can conclude that papaya leaf decoction is very effective for reducing pain in post partum mothers. It is hoped that health workers can provide information and services about pain management in post partum mothers by using papaya leaf decoction as a safe and efficient alternative treatment.

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