

Benefits of Red Ginger for Obstetrics

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ABSTRACT

Midwifery is a problem that can be encountered during a woman's life cycle. If not handled properly, it can interfere with women's quality of life and even increase the number of maternal deaths, including primary dysmenorrhea and perineal injuries. Primary dysmenorrhea is a gynecological complaint that most often occurs in women, namely pain that occurs at the beginning of menstruation, while perineal injuries are wounds that occur during childbirth in the part between the vulva and anus. namely the use of red ginger (*Zingiber officinale* Var. *Rosc. Rubrum*). Objective: To find out the benefits of red ginger in obstetric cases Method: Literature study that describes the benefits of red ginger to obstetric cases Sample: 2 studies of red ginger in obstetric cases Results: Both studies found that red ginger is very beneficial in Obstetrics.

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INTRODUCTION

Maternal Mortality Rate (MMR) is the ratio of deaths that occur during pregnancy, childbirth and the puerperium caused by circumstances and not due to accidents. The AKI that occurs is still very high. According to the World Health Organization (WHO) AKI occurs in 42 people every day. Based on the Indonesian Demographic and Health Survey (SKDI) in 2012, the MMR was 359 per 100,000 live births (1). Primary dysmenorrhea is the most common gynecological complaint in women, namely pain that occurs at the beginning of menstruation (2). This condition affects the quality of life of many women during their reproductive years such as disruption of daily activities, absenteeism from school and absenteeism from work. Primary dysmenorrhea occurs in adolescent girls whose menstrual cycles are regular after menarche due to inflammation of the corpus luteum, which is expelled from the ovum and the endometrial lining which has been secreted and eventually collapses, thereby stimulating the formation of Prostaglandin F_{2α} (PGF_{2α}) which will cause pain (3). Currently, it is known that primary dysmenorrhea occurs due to the increasing amount of PGF_{2α} from the endometrium from the luteolysis phase until menstruation which causes increased uterine contractions, decreased blood flow to the uterus makes the peripheral nerves hypersensitive to stimulate pain. From previous studies, it is known that the inhibition of the cycle of prostaglandin formation, namely cyclooxygenase (COX) can inhibit the production of prostaglandins so that menstrual pain does not occur (4). The incidence of primary dysmenorrhea is closely related to age, parity, use of contraceptives, lifestyle, mother's education, stress

Puerperal infection can be caused by perineal wounds that do not heal. Wound is a form of tissue damage to the skin caused by trauma, surgery, neuropathic, vascular, pressure, malignancy (5) The perineum is the part between the vulva and the anus. Perineal wound is a wound that occurs during childbirth in the part between the vulva and anus. Perineal wounds have grades I, II, III, IV according to the depth of the perineal wound. What needs to be sewn from degrees II, III, IV. However, it must be cared for so that a perfect healing occurs and avoids infection and other effects.

Primary dysmenorrhea is menstrual pain at the beginning of the cycle. There are pharmacological and non-pharmacological treatments for menstrual pain. Pharmacologically, taking non-steroidal anti-inflammatory drugs such as mefenamic acid raises concerns that these drugs will have side effects if consumed for too long, then switch to the management of menstrual pain by consuming vitamins E, B1, zinc to techniques such as acupuncture, gymnastics, yoga and even Currently, the use of herbs is being developed so that the pain does not occur during menstruation.

Ginger is divided into 3 varieties, namely rhino ginger (big yellow/white), emprit ginger (small yellow/white), red ginger (red rhizome). In general, the chemical compounds contained in ginger consist of volatile oil, non-volatile oil and starch. The content of ginger varies, red ginger is proven to contain more starch, essential oils, and extracts that are soluble in alcohol so that it is more suitable for use as a treatment (6). The content of ginger that can inhibit COX-2 is 10-gingerol, 8-gingerol, 6-gingerol and 6-shogaol, but which proved to be more able to inhibit COX-2 was 6-gingerol (6-gingerol content in fresh ginger 21.15 mg/gram base weight and in dry ginger containing 6-gingerol 18.81 from dry base weight. The desired dose of gingerol has been proven to inhibit the COX-2 ligand as much as 26 mg/kg/day, while the limit for consuming ginger powder is 2 grams per day. From many research results it has been proven that the consumption of ginger (ginger) can reduce pain intensity because the content of ginger (gingerol) can inhibit the synthesis of PGF₂α in COX-2. So researchers are interested in seeing the benefits of red ginger in obstetric cases.

Dysmenorrhea comes from the Greek word which means difficult monthly blood flow and is associated with pain during menstruation (2). Dysmenorrhea can be divided into two categories, namely primary and secondary. Primary dysmenorrhea is menstrual pain in sufferers due to the physiological process of menstruation so that they leave daily activities. Dysmenorrhea begins several months or at least 2 years after menarche. The duration of primary dysmenorrhea is 48-72 hours but the most painful is only 24 hours. The character is like cramps and there is no abnormality in the pelvis (4)

Signs and symptoms Primary dysmenorrhea usually occurs up to two years after menarche, when it is more likely secondary dysmenorrhea caused by endometriosis. Signs of primary dysmenorrhea according to Dawood, 2006 are pain during menstruation starting a few months or at least 2 years after menarche, duration of cramps 48-72 hours, always pain only 24 hours or less. Starting before a few hours or often after the flow of menstrual blood, Characteristic pain such as cramps, On pelvic examination there were no abnormalities including rectovaginal. The pain in primary dysmenorrhea is like cramping is strongest in the lower abdomen but can also be in the back and center, systemic symptoms include nausea, vomiting, diarrhea, headache, tiredness, nervousness, dizziness, fainting and falling (3). Primary dysmenorrhea is diagnosed by assessing typical symptoms such as pain above the pubis (cramps) after several months after menarche, appearing 48-72 hours and pelvic examination revealed no abnormalities. Handling according to Wallace et al, 2010 can be done in 3 major parts according to theory and causes, namely medication, surgery, other therapies (using techniques or herbs, one of which is red ginger)

Perineal wound is a tear that occurs when the baby is born either spontaneously or using a tool but can be stitched back. Perineal wound is a tear that occurs in the perineum when the fetus is born either spontaneously or intentionally, namely through an episiotomy. Based on the process of the occurrence of perineal injuries can be classified as follows a. Spontaneous perineal injuries, namely wounds that occur during spontaneous delivery, b. Intentional perineal wound (episiotomy) is a wound that occurs as a result of an incision in the perineal area (deliberate). Based on the depth

of the perineal wound is divided into 4, namely a. Grade I: tear only on the vaginal mucosa or perineal skin (no need for stitches), b. Grade II: Tear occurs in the vaginal mucosa, skin and perineal muscles (needs stitching), c. Grade III: Tear in the vaginal mucosa, skin, perineal muscles and external anal sphincter (needs stitching), d. Grade IV: The tear involves the perineum to the anal sphincter muscle and rectal mucosa. Perineal injuries often occur in the first child with grade II, III injuries with a baby weight of 3500 grams and above (20)

Red ginger is a find-finding plant, one of the spices that is easily available in the community. Ginger extract can be useful as an anti-oxidant and anti-inflammatory with its contents such as 6 gingerol, 6 shogaol, zingerol and so on which can reduce inflammatory mediators such as inflammatory cytokines and chemokines that cause decreased activation of NF-Kb, COX-2 and inhibited serotonin receptors. Ginger content can prevent the biosynthesis of leukotrienes, prostaglandins by inhibiting 5-lipoxygenase and prostaglandin synthesis so that ginger content can be anti-inflammatory, anti-carcinogenic, anti-oxidative.

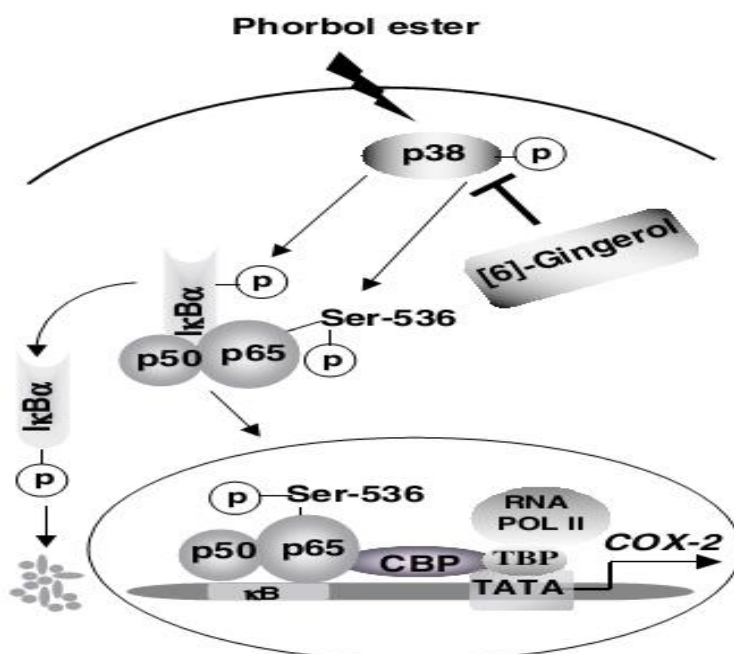


Figure 1. gingerols inhibit P38 in the NFκB signaling pathway

Red Ginger nutritional content

Nutritionally the content of ginger in 100 grams is as follows shown in table 2.1

Table 1. Nutritional Content Of Ginger In 100 Grams

Constituent	Value	Constituent	Value
Moisture	15.02±0.04	Ash (g)	3.85±0.61 (4.53)
Protein (g)	5.087±0.09(5.98)	Calcium (mg)	88.4±0.97(104.02)
Fat (g)	3.72±0.03 (4.37)	Phosphorous(mg)	174±1.2 (204.75)
Insoluble fibre(%)	23.5±0.06(27.65)	Iron (mg)	8.0±0.2 (9.41)
Solublefibre (%)	25.5±0.04 (30.0)	Zinc (mg)	0.92±0 (1.08)
Carbohydrate (g)	38.35±0.1	Copper (mg)	0.545±0.002(0.641)
Vitamin C (mg)	9.33±0.08 (10.97)	Manganese (mg)	9.13 ±001 (10.74)
Total caretenoids (mg)	79±02 (9296)	Chromium (µg)	70±0 (83.37)

RESEARCH METHOD

This research method is a literature study with a descriptive design, namely to describe the benefits of red ginger for obstetric cases, namely the Handling of Primary Dysmenorrhea and Perineal Wounds. The population of this research is international journals and national journals/national proceedings

The samples of this study were 2 studies that had been carried out by researchers directly entitled Effects of red ginger capsule supplementin reducing PGF2a Concentration and Pain Intensity in Primary Dysmenorrhea and the Effectiveness of Red Ginger Boiled Water on Perineal Wound Healing in Postpartum Mothers at the Trismalia clinic in 2020

RESULTS AND DISCUSSIONS

The results of this study are

No	The results of this study are	Preparation	Dose	Results
1	Effects of red ginger capsule supplementin reducing PGF2a Concentration and Pain Intensity in Primary Dysmenore	Capsule	One capsule contains powder with 50 mg red ginger extract	Effective in reducing the intensity of dysmenorrhea pain
2	The Effectiveness of Red Ginger Decoction for Healing Perineal Wounds in Postpartum Mothers at the Trismalia clinic in 2020	Air Rebusan Jahe Merah	One capsule contains powder with 50 mg red ginger extract	Effective in healing perineal wounds

Based on table it can be seen that both studies have benefits in midwifery cases Both studies are useful in obstetric cases, namely primary dysmenorrhea and perineal wound healing. It can be seen from the results of the study that both of them use red ginger but can overcome obstetric problems, namely reducing the intensity of primary dysmenorrhea pain and accelerating the healing process of perineal wounds. The different dosage forms are making capsules and making red ginger boiled water but the same dose is 50 mg of red ginger extract. Respondents from this study who have been directly to humans stated that previously it has been widely proven in animals and will proceed to the next level of research, namely the manufacture of red ginger products for obstetric cases that can be more easily obtained by the public in the market.

From the results of the study it appears that drinking red ginger (*Zingiber officinale* Rosc Var rubrum) boiled water is effective in accelerating the healing of perineal wounds in postpartum women according to the theory that the active substance in red ginger (*Zingiber officinale* Rosc Var rubrum) can function as an anti-inflammatory. If a perineal wound occurs, then on day 1 to day 3 inflammation will occur (8), drinking red ginger boiled water is given for 3 days from the first day to the third day because at this time inflammation occurs in the wound, while red ginger contains anti-inflammatory substances. This supports the wound healing process faster.

Since the first day after the injury, there is an increase in neurotrophic cells migrating to the injured tissue by turning into macrophages to kill germs that enter the body through the perineal wound, this occurs for 3 days. By consuming red ginger boiled water, it will reduce the effect of inflammation because red ginger boiled water contains anti-inflammatory properties. As in the previous study, red ginger extract reduced the number of macrophages in rats with incisional wounds (9). Researchers assume that postpartum mothers consume red ginger boiled water, it reduces the inflammatory effect on perineal wounds and this supports the faster wound healing process. It is evident from the results of this study that the perineal wounds of postpartum women who drink boiled red ginger heal faster than postpartum women who drink water

CONCLUSION

Ginger is useful for handling obstetric cases even in capsules and boiled water because it has essential oils with the active chemical compound 6-gingerol as an anti-inflammatory. Ginger is recommended to be used as a medicinal ingredient in the treatment of obstetric case

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