Effectiveness Of Chamomile and Ginger On Reducing Pain Intensity In Active Phase I Partus

Joharmi[1],Herviza Wulandary Pane [2], Ustifina Hasanah [3], Raudha [4]

[1,2,3,4] Sekolah Tingi Ilmu Kesehatan Sehat, Medan.

Email corespondensi: Joharmi.Lutfhi@gmail.com.

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Abstract

Aromatherapy is a method that uses essential compounds to improve physical, emotional, and spiritual health. Another effect is to reduce pain and anxiety. Several studies have demonstrated the effectiveness of aromatherapy for pain and stress in maternity patients. Chamomile is one of the herbal medicinal plants that has long been known in human life. Chamomile that has been processed is generally used to treat diseases experienced by humans, namely fever, inflammation, muscle spasms, menstrual disorders, insomnia, wounds, digestive disorders, rheumatic pain, and hemorrhoids. Chamomile oil is used extensively in cosmetics and aromatherapy. Many chamomile treatments can be developed; the most famous medicine is chamomile herbal aromatherapy. This study used a posttest-only control group design with 44 respondents, all pregnant women whose gestational age was between 38-41 weeks.The results of therapy in the form of a decrease in pain in the chamomile oil therapy group compared to the ginger group turned out to have a significant difference. The pain intensity of some respondents before ginger therapy was moderate pain, namely, 12 people (54%) and mild pain, 10 people (46%). After ginger therapy, the pain intensity of respondents experienced no pain, namely as many as 10 people (46%), mild pain in as many as 7 people (32%), and moderate pain in as many as 5 people (22%).Value < 0.05, whereas with ginger, the p-value was 0.049, also the p-value < 0.05, it can be interpreted that chamomile and ginger are both effective in reducing the intensity of labor pain during the active phase I stage, but chamomile is more effective compared to ginger, because the smaller the p-value, the greater the effectiveness, as shown in the table above. There is a significant difference between chamomile and ginger oil in reducing pain.

Keywords: Chamomile, Ginger, Pain Intensity, Partus

INTRODUCTION

Based on data from the World Health Organization (WHO), in 2015, almost 830 women died every day due to matters related to pregnancy and childbirth. 99% of all maternal deaths occur in developing countries, especially those living in rural areas and among the poor (WHO, 2015). The Millennium Development Goals (MDGs), with a validity period of 5 years targeting the Maternal Mortality Rate (MMR) of 102/100,000 Live Births (KH), turned out to be less successful because the MDGs program was running very slowly, so 2016 the Sustainable Development Goals (SDGs) were launched. as sustainable development with a new agenda, in 2030 reduce MMR to 70/100,000 KH (Kemenkes RI, 2019). The 2019 Indonesian Demographic and Health Survey noted that prolonged labor (42.96%) was the

main cause of maternal and perinatal death, followed by bleeding at 35.26%, and eclampsia at 16.44%.

The survey results found that prolonged labor can cause emergencies in mothers and babies. In the mother, there can be bleeding, shock, and death; in the baby, there can be fetal distress, asphyxia, and caput (BKKBN RI, 2017), Safe delivery is when pregnant women look forward to feeling the coveted happiness. However, for some women, childbirth is sometimes filled with fear and anxiety about pain during labor (Rodiani, 2019). Labor pain arises due to uterine contractions, which cause dilatation and thinning of the cervix and uterine ischemia caused by the contraction of the myometrial arteries (Irawati, 2019); (Saputra, 2017). Excessive pain will cause anxiety which can trigger the production of the hormone prostaglandin which can cause stress and affect the body's ability to withstand pain (Biswan, 2017); (Sari, 2022).

At the time of delivery, if a person feels anxious, the brain will drain a substance that closes the release of endorphins so that the pain is felt even more extraordinary and causes the mother to become stressed in facing her birth which makes the pain impulses increase. The contractions of the uterine muscles are weak. In the first stage of labor, the pain Felt is visceral in nature, arising from uterine contractions and cervical dilation, which are innervated by sympathetic afferent fibers and transmitted to the spinal cord in the 10th Thoracal – Lumbar 1st segment via delta nerve fibers and C nerve fibers originating from the lateral wall and uterine fundus. Pain will increase with isometric contractions in the uterus against the barriers of the cervix/uterus and perineum. There are many methods for dealing with labor pain ways to deal with labor pain, namely by pharmacological and non-pharmacological approaches. There is the administration of pharmacological methods, labor pain will be reduced physiologically, but the psychological and emotional condition of the mother will be neglected. At the same time, non-pharmacological ways are effective without adverse side effects and can increase satisfaction during labor because the mother can control her feelings and strength. These methods include hot and cold touch therapy, massage, reflexology, relaxation, dancing, sugar-free rubber, trans or subcutaneous nerve stimulation, water therapy, using birth balls, music therapy, acupressure, and aromatherapy .

Aromatherapy is a method that uses essential compounds to improve physical, emotional, and spiritual health (Anwar, 2018) . Another effect is to reduce pain and anxiety. Several studies have demonstrated the effectiveness of aromatherapy for pain and stress in maternity patients (Utami, 2016); . One of the efforts to reduce pain in post sectio caesarea mothers is with aromatherapy. Using aromatherapy by inhalation can stimulate endorphin

release to reduce pain (Putri et al., 2018); (Pratiwi & Subarnas, 2020). Aromatherapy bitter orange (Citrus Aurantium) is a non-pharmacological therapy to reduce pain in mothers giving birth to stage 1. Aromatherapy using citrus aurantium flower essential oil could reduce anxiety in the first stage of labor.

Chamomile is one of the herbal medicinal plants that has long been known during human life. Chamomile that has been processed is generally used to treat diseases experienced by humans, namely fever, inflammation, muscle spasms, menstrual disorders, insomnia, wounds, digestive disorders, rheumatic pain, and hemorrhoids. Chamomile oil is used extensively in cosmetics and aromatherapy. Many chamomile treatments can be developed; the most well-known treatment is chamomile herbal aromatherapy (Pratiwi, 2020).

Ginger is a plant with a million properties that have been known for a long time. Ginger is one of the important spices. The rhizome has many benefits, including as a cooking spice, drink, and is also used in traditional medicinal ingredients. The oleoresis causes a nutty taste that warms the body and oozes sweat. The antiemetic effect is also elicited by the diterpentenoid components, namely gingerol, shaogaol, galanolactone (Aryanta, 2019).

Based on direct observations during the delivery process, no one had ever used chamomile and ginger to treat pain during the delivery process at PMB Nining. In this regard, the researcher is interested in comparing the two variables with "Effectiveness of Chamomile and Ginger on Reducing Pain Intensity in the Active Phase I of Labor at PMB Nining in 2022.

METHOD

This type of research design is vital in research that allows maximizing the control of several factors that can affect the validity of a result. Research design guides researchers in planning and conducting research to achieve a goal or answer a question. This study divided the sample into two groups (experimental group and control group) as research samples, then gave different treatments to determine the effect of the independent variable on the dependent variable. This study used a posttest-only control group design.

The samples used in this study were all pregnant women whose gestational age was between 38-41 weeks at PMB Nining in 2022, totaling 44 people in September. The data collection technique is data obtained directly from respondents regarding the smoothness of the delivery process through interviews and observations of each respondent who experienced decreased pain intensity in the first active phase. Secondary data is obtained

from recording and reporting documentation in PMB Nining related to age, education, domicile, gestational age, etc.

RESULT

Table 1. Characteristics of respondents

Variable	Frequency	%
Age		
20-25 years	15	34,1
26-30 years	24	54,5
31-35 years	5	11,4
Education		
Elementary school	2	4,5
Junior high school	5	11,4
Senior High School	30	68,2
University	7	15,9

Source: Primary data 2022

Based on table 1, based on the age of the respondents, the majority who experienced pain in the first active phase of labor, namely at the age of 26-30, were 24 people (54.5%). Based on the education of the respondents, the majority of those who experienced pain in the first active phase of labor, namely senior high school, educated as many as 30 people (68.2%).

The distribution of the frequency of respondents based on the intensity of labor pain during the first stage of the active phase before and after the chamomile oil therapy and ginger therapy at PMB Nining can be seen in table 2 below:

Table 2. Frequency Distribution of Pain Intensity Levels Before and After Performing Chamomile Oil Therapy and Ginger Therapy

Variable	Frequency	%
Before Doing Chamomile Oil Therapy		
Mild pain	10	46,0
Moderate pain	12	54,0
After Doing Chamomile Oil Therapy		
No pain	11	50
Mild pain	9	41
Moderate pain	2	9
Pain Intensity Level Before Ginger Therapy		
Mild pain	10	46
Moderate pain	12	54
Level of Pain Intensity After Ginger Therapy		
Level of Pain Intensity After Ginger Therapy	10	46
Level of Pain Intensity After Ginger Therapy	7	32
Level of Pain Intensity After Ginger Therapy	5	22

Source: Primary data 2022

Based on table 2, the intensity of labor pain in the first stage of the active phase of some respondents before chamomile oil therapy was moderate pain, namely in 12 people (54%) and mild discomfort, 10 people (46%). The intensity of pain for some respondents after chamomile oil therapy was no pain, namely, as many as 11 people (50%), experienced mild pain in as many as 9 people (41%), and experienced moderate pain in as many as 2 people (9%). The pain intensity of some respondents before ginger therapy was moderate pain, namely, 12 people (54%) and mild pain, 10 people (46%). After ginger therapy, the pain intensity of respondents experienced no pain, namely as many as 10 people (46%), mild pain in as many as 7 people (32%), and moderate pain in as many as 5 people (22%).

Comparison of Chamomile and Ginger Oil on Reducing Pain in PMB Nining The frequency distribution of respondents based on pain intensity before and after the application of chamomile and ginger oil at PMB Nining, which was carried out in September can be seen in table 3 below:

Table 3. Comparison of Pain Intensity Levels Before and After Chamomile Oil and Ginger

Variable	Group	N	Mean	Mean of Rank	Sum of Ranks	P-value
Chamomile pain scale comparison	Chamomile pain scale comparison	22	2,48	26.25	577.50	0,042
	Ginger	22	2,23	18.75	412.50	0,049

Source: Primary data 2022

Based on Table 3, the results of therapy in the form of a decrease in pain in the chamomile oil therapy group compared to the ginger group turned out to have a significant difference. The P-value <0.05, whereas with ginger, the p-value was 0.049, also the p-value <0.05, it can be interpreted that chamomile and ginger are both effective in reducing the intensity of labor pain in the active phase I stage, but chamomile is more effective than ginger, because the smaller the p-value, the greater the effectiveness, as shown in the table above.

DISCUSSION

Childbirth can be said to be the culmination of a series of preliminary exercises to finally achieve an optimal state of maternal and fetal health to welcome the birth of a baby. Childbirth is a normal physiological event. Childbirth is the process of opening and thinning the cervix and the fetus descending into the birth canal. Normal labor and birth is the process of expelling the fetus in full-term pregnancy (37 - 42 weeks) spontaneously born with a head back presentation without complications for both mother and fetus (Fitrianingsih, 2018). The

weight of the baby's head when moving down the birth canal also causes pressure. These things cause pain in the mother. Pain is most dominant during labor, especially during the active phase. As the volume and frequency of uterine contractions increase, the pain will become stronger (Rahman, 2017). Labor does not always proceed normally because the labor process has several complications (Herinawati, 2019). Five important factors affect labor, which consist of power (his and the strength of pushing), passageway (birth canal), passenger (fetus, umbilical cord, placenta, and amniotic fluid), position (position), and psychology (Mulyani, 2017). The result of a malfunction of any of these factors can cause labor to take longer, pain levels to increase, and it is not uncommon for labor to end in a cesarean section .

The study's results revealed that some respondents' pain intensity before the chamomile oil therapy was moderate pain was 54%. This was proven when the breakdown occurred; respondents with an average pain scale felt the pain they were experiencing and revealed that they could do light activities but could not maximize it because the pain was disturbing (Anggraeni, 2021);(Handayani, 2016) .

Researchers have the opinion that the pain that is being felt by the respondent now occurs due to the process of opening the cervix that is being experienced. At the beginning of the opening, the pain is still not felt or can still be endured by pregnant women. But when the cervix's opening increases, labor pain during the first stage of the active phase increases.

This is according to Putri et al., (2018) show after the pre-experiment was carried out for two days, the pain scale in mothers after giving aromatherapy decreased from the average pain scale, namely on the first day 0.467 and from the second day of the pretest 0.767. From these results, it can be seen that there is a difference between the pain scale felt by the mother before and after giving chamomile aromatherapy, with a standard deviation of 0.507 and 0.568. The results of the T-Test statistical test obtained a p-value: of 0.000 for the results of the first and second-day measurements (p-value $<\alpha=0.05$). Based on the analysis of these results, it is known that there is an effect of giving chamomile aromatherapy on the pain scale, as illustrated by the decrease in the average pain scale since being given chamomile aromatherapy from the first day to the second day.

Therapy that uses aromatherapy in the form of bitter orange against postpartum maternal pain. Patients who are given therapy using bitter orange aromatherapy stimulate the body to release endorphin compounds that stimulate muscles (Anwar, 2018). The body relaxes, which is a pain reliever, as if it were resting for several hours (Utami, 2016); (Sharifipour, 2015). Inhaling the scent of lavender will increase alpha waves in the brain, and these waves help us feel relaxed. Aromatherapy can provide a sensation that calms the self and brain, and the

stress felt .

The results showed that the pain intensity of some respondents before the chamomile oil therapy was not painful, namely 11 people (50%). After being given chamomile oil for 15 minutes, the respondent said the pain was gone. The researchers argue that the decrease in joint pain is due to the area of pain being given chamomile oil so that the respondent feels more comfortable. In addition, the stimulus (impulse) of pain to the brain becomes blocked, and there is also a diversion of attention from the warm feeling felt by the respondent.

In addition, 41% of respondents felt moderate pain after being given chamomile oil and asked again about their pain scale. Respondents said they had lost a little and would do it again at home. This can be seen from the facial expressions of the respondents, who are more relaxed and happy than before.

This follows the opinion of Puspa Devi et al., (2021) Chamomile works by conduction, namely transferring heat from the bladder to the area that feels pain. Heat works by stimulating pain receptors (nociceptors) to block pain receptors. The results showed that the pain intensity of some respondents before ginger therapy was moderate pain, as much as 54%. The power of pain for some respondents before ginger therapy was not painful, namely 11 people (50%). This was proven when the study occurred; respondents with a moderate pain scale felt the pain they were experiencing and revealed that they could do light activities but could not maximize it because the pain was disturbing.

This is the opinion of Potter & Perry (2015) There are pain messages that can interact with inhibitory nerve cells, preventing pain stimuli from reaching the brain or being transmitted unhindered to the cerebral cortex. Once the pain stimulus reaches the cerebral cortex, the brain interprets the quality of pain. It processes information about past experiences, knowledge, and cultural associations to perceive pain (Siregar, 2020).

The study's results revealed that some respondents' pain intensity after ginger therapy was moderate, as much as 54%. After being given ginger therapy for 15 minutes, the respondent said the pain was gone. Researchers argue that the decrease in pain in the joints is due to the area of pain given ginger therapy so that respondents feel more comfortable. In addition, the stimulus (impulse) of pain to the brain becomes blocked, and there is also a diversion of attention from the warm feeling felt by the respondent (Wicaksono, 2015); (Sembiring, 2015).

The results of therapy in the form of a decrease in pain scale (decreased VAS score) in the chamomile oil therapy group compared to the ginger therapy group differed greatly when analyzed statistically using the SPSS test. 0.05. So the hypothesis is proven, meaning there is

a significant difference between chamomile and ginger oil in reducing pain.

The results of the two therapies differ greatly between chamomile and ginger oil. The results of the study from 22 respondents who experienced joint pain at the Gambir Baru Health Center found that the average collaborative pain scale before being given chamomile oil was moderate pain in the number of 12 respondents (54%), the middle joint pain scale after being given chamomile oil was no pain respectively 11 people each (50%). Between the ginger and warm intervention, groups showed an average value of 2.48.

Warm water compresses and chamomile oil reduce joint pain by giving a warm feeling to the common area experiencing pain (Kurnia, 2015); (NK Yuniasih, 2018). Ginger uses a warm water decoction as a heating medium to reduce joint pain, and chamomile oil uses ginger decoction. In addition, ginger and chamomile oil heal at different stages even though they use the same medium, which is warm (Aryanta, 2019); (Arman, 2016).

According to Potter & Perry (2015) in Ani Dwi Pratintya, Harmilah, and Subroto explains, the decrease in the intensity of joint pain felt by respondents can be caused by impulses that suppress pain so that pain can be reduced. The notion is the warm temperature that is given and hits the painful part. Local response to heat occurs through the stimulation of nerve endings in the skin (Mutiah, 2022). This stimulation will send impulses from the periphery to the hypothalamus. If these changes occur continuously through the temperature sensation pathway, the reception and perception of the stimulus will change. The average (mean) decrease in the pain scale with the treatment of ginger and chamomile oil was 2.48. Chamomile oil was more effective in reducing joint pain because ginger contains substances such as gingerol, which can help reduce joint pain, than ginger which only uses a warm sensation.

Ginger has an anti-inflammatory effect, so it can treat inflammation and reduce pain due to gout. This anti-inflammatory effect is due to the active components of ginger consisting of gingerols, ginger-dione, and zingerone, which inhibit leukotrienes and prostaglandins, which are inflammatory mediators. The results of this study are the results of research conducted by Samsudin et al., (2016) which aims to determine the effect of giving ginger using grated ginger on changes in pain scale in gout arthritis sufferers in the village of Tateli Dua, Mandolang District, Minahasa Regency. The results obtained a significant pain level before and after giving ginger using grated ginger with an average decrease in joint pain of 2.50.

CONCLUSION

Based on the research objectives and the research results obtained regarding the

comparison of chamomile and ginger oils to reducing pain in 2022, the researchers drew several conclusions, namely the pain level of respondents before being treated with chamomile oil at PMB Nining, most of them were in the moderate pain category, the pain level of respondents before Most of the pain levels done by ginger at PMB Nining was in the average pain category, the pain level of the respondents after being done with chamomile oil at PMB Nining was partly in the no pain category, the pain level of the respondents after ginger was done at PMB Nining was a small part in the no pain category and there was a significant difference between the oils chamomile and ginger on pain reduction in PMB Nining.

For future researchers, this research is expected to be able to increase knowledge and insight as well as add experience as well as for future researchers as reference material who will examine related research so that they can apply it to women in labor about handling pain during work appropriately and effectively and for Educational Institutions, namely adding literature about childbirth and everything related to it and being able to add insight to students of the STIKes As Syifa Range of Midwifery Study Programs and for Midwives, namely providing knowledge in reducing pain intensity in the active phase of stage I and continuing to implement better delivery practices Again.

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