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# The Effect of Applying Compress Balls (Ginger, Turmeric, Lemongrass) on Afterpain in Postpartum Mothers in the Basarang Community Health Center Work Area

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**Abstract,** *Labor in a woman begins when the uterus experiences increasingly frequent contractions. The postpartum period is a crucial period for mothers after giving birth, often accompanied by afterpains that disrupt the recovery process. Puerperium, or nifas, can also be defined as the postpartum period, the period from the birth of the baby and the placenta's separation from the uterus until the following six weeks, accompanied by the recovery of organs related to the uterus that experience changes such as injuries and other things related to childbirth. One non- pharmacological method that can reduce this pain is a ball compress filled with spices (ginger, turmeric, lemongrass). The study was conducted to determine the effect of applying compress balls (ginger, turmeric, lemongrass) afterpain in postpartum mothers in the Basarang Community Health Center (UPT) work area. This type of study used a pre-experimental one-group pretest- posttest design with a sample of 25 respondents. The results of the study showed that there was an effect of applying compress balls (ginger, turmeric, lemongrass) on afterpain in postpartum mothers in the Basarang Community Health Center (UPT) work area. The results of the statistical analysis showed that before the combination intervention, the majority of respondents experienced severe pain, as many 13 people (52%), and after the combination intervention, the majority of respondents experienced mild pain, as many as 15 people (60%). There is an effect of the combination of compress ball therapy on after pain in postpartum mothers with a P value of 0.000 (p < 0.005).*

**Keywords:** Afterpain, Basarang Community Health Center (UPT), Compress Ball, Emotional Well-Being , Postpartum Mother.

## 1. INTRODUCTION

After the placenta is delivered, the puerperium, often known as the postpartum phase, starts and lasts for around six weeks. The body recovers physiologically and psychologically during this time, and the reproductive organs revert to their pre-pregnancy form. One common complaint is abdominal pain, known as afterpain.

The postpartum period is a critical period experienced by mothers after giving birth, typically lasting six weeks. During this period, the mother's body undergoes significant physical and hormonal changes. One common discomfort during the postpartum period is afterpain. Afterpain is caused by continued uterine contractions as the uterus attempts to return to its pre-pregnancy size and position. This pain can disrupt the mother's comfort and well-being, as well as affect the overall recovery process.(Riyan et al. 2023).

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The characteristic pain experienced by mothers on the first day of postpartum is a feeling of cramping in the lower abdomen with moderate pain, namely on a scale of 5-6. The factors causing afterpain itself are contractions during childbirth, the return of the muscles and organs of pregnancy, which is the process of uterine involution, so that cramps or pain in the area around the stomach will be felt by the mother. The pain experienced by the mother not only affects herself but also her baby. Pain due to increasingly frequent uterine contractions makes mothers reluctant to breastfeed their babies, because when the mother breastfeeds, there is a release of oxytocin from the posterior pituitary gland which is stimulated by the baby's suction. Oxytocin also stimulates contractions of the myometrium in the uterus, which women usually report as afterpain (painful uterine contractions after childbirth).(Devina, Nurmasitoh 2025).

This pain is caused by uterine contractions that gradually occur during the involution process, which is the return of the uterus to its normal size and shape after childbirth. The intensity of these contractions can increase during breastfeeding due to the release of the hormone oxytocin in response to the baby's sucking, which also plays a role in stimulating uterine contractions. Afterpain can affect the comfort and quality of life of postpartum mothers. Excessive pain can reduce a mother's motivation to breastfeed, increase anxiety, and hinder the postpartum recovery process. The pain experienced by each person is different, including in postpartum mothers with perineal wounds due to episiotomy or tears during childbirth. The level of pain increases with the degree of perineal rupture experienced by the postpartum mother.(Zahara et al. 2024) Thus, a critical component of postpartum midwifery care is the management of afterpain.This management can be carried out using pharmacological and non-pharmacological approaches. Pharmacological therapy generally involves administering analgesics, but Long-term use may result in adverse effects such allergic reactions, dependence, or unsettled stomachs. As an alternative, non-pharmacological therapies are increasingly being developed, including the use of traditional herbal concoctions that are relatively safe, inexpensive, and easily accessible. One form of traditional therapy widely known in Indonesia is the ball compress.

Various methods can be used to reduce perineal wound pain, both pharmacological with medications and traditional non-pharmacological methods. While effective, pharmacological methods have side effects that can be detrimental to postpartum mothers and their babies. Nonpharmacological methods are generally safe to use because they have minimal side effects. Nonpharmacological pain management poses no risk to either mother or baby. Some therapies that can be used to accelerate wound healing include aloe vera gel, boiled taro leaves, betel leaves, and cinnamon.(Maternity, Dwijayanti, and Kurniasari 2022).

Cramping, intense tugging, or even the sensation of being stabbed by a sharp or blunt item are examples of afterpain. Afterpain may be caused by uterine ischemia during uterine contractions(Basyouni and Gohar 2017)Besides uterine involution, another cause of afterpain is breastfeeding. During breastfeeding, oxytocin is released, which causes uterine contractions, accelerating uterine involution. Afterpain can occur on days 3-10 postpartum, especially in multiparous mothers, due to increased sensitivity of the central nervous system.(Tafazoli and Ahmadabadi 2013)Apart from that, the uterus tends to be loose and fully stretched so that stronger contractions are needed during uterine involution.(Namboothiri and Viswanath 2016).

In traditional Thai medicine, herbal ball compression—also referred to as "Luk Pra Kob"—is a therapeutic method that employs fabric balls filled with a blend of different herbs. In Thai culture, this treatment has been utilized for centuries to lessen pain, increase blood flow, and hasten the healing process following trauma or childbirth.(Riyan et al. 2023).

According to previous researchers, traditional medicine such as "rice kencur" herbal medicine is an alternative for postpartum recovery through consuming "rice kecur." Rice kencur herbal medicine, with its main ingredients consisting of rice and kencur rhizomes, contains phenolic compounds known to function as antioxidants. Antioxidants and polyphenol compounds have the ability to reduce cell damage by scavenging free radicals, reducing stress, pain, cramps, and oxidative stress, and reducing the expression of TNF-α, which causes cell damage.

During the postpartum period, tears in the birth canal often occur, causing pain due to the perineal injury during delivery. Perineal tears can potentially cause bleeding because the blood vessels between the vagina and anus are damaged. (Niluh Sukmadewi, Nurliyani, Sunarsih 2025). According to WHO data from 2020, there were over 2.7 million incidents of perineal injuries among postpartum women globally; by 2050, this figure is predicted to rise to 6.3 million. In Asia, these cases account for approximately 50% of the global total. In Indonesia, 75% of mothers who give birth vaginally experience pain due to perineal injuries. In the same year, of 1,951 spontaneous deliveries, 57% of mothers experienced perineal pain: 28% due to episiotomy and 29% due to spontaneous tearing.(Silvia Rahmawati 2024).

The benefits of ball compression have various benefits, one of which is reducing pain (after pain) to reduce muscle pain, joint pain, and post-natal pain.

Based on the background of the problem above, the author is interested in taking the title "The Effect of Applying Compress Balls (ginger, turmeric, lemongrass) on After Pain in Postpartum Mothers in the Working Area of the Basarang Community Health Center UPT".

## 2. RESEARCH METHOD

This research uses a pre-experimental method, a research design that has not been categorized as a true experiment. This pre-experimental research approach uses a one-group pretest-posttest design. The sample used in this study was a total sampling of 25 respondents. The technique used was total sampling to determine the entire population of postpartum mothers. Data collection techniques used tests, participant observation questionnaires, in-depth interviews, documentation, and triangulation. In this study, the analysis used was the Wilcoxon test.

## 3. RESULTS AND DISCUSSION

### Research Results

This study was conducted on 25 respondents, consisting of postpartum mothers experiencing postpartum afterpain in the Basarang Community Health Center (Puskesmas) work area. The data is presented in univariate and bivariate formats to describe the respondents' characteristics.

### Respondent Characteristics

**Table 1** Respondent Characteristics (N=25).

| Characteristics | Frequency | % |
|---|---|---|
| **Respondent Age** | | |
| 20-25 years | 15 | 60% |
| 26-30 years old | 6 | 24% |
| 31-36 years | 4 | 16% |
| **Education** | | |
| JUNIOR HIGH SCHOOL | 5 | 20% |
| SENIOR HIGH SCHOOL | 19 | 76% |
| College | 1 | 4% |
| **Work** | | |
| Doesn't work | 17 | 68% |
| Work | 8 | 32% |
| **Parity** | | |

| | | |
|---|---|---|
| Primipara | 8 | 32% |
| Multipara | 17 | 68% |
| Total | 25 | 100% |

Table 1 shows that most of the 25 responders are aged 20-25 years, as many as 15 respondents (60%), aged 26-30 years as many as 6 respondents (24%), while aged 31-36 years as many as 4 respondents (16%). Based on education, the majority of high school education is 19 respondents (76%), junior high school education is 5 respondents (20%), while college education is 1 respondent (4%). Based on occupation, the majority of postpartum mothers are unemployed as many as 17 respondents (65%), while postpartum mothers are employed as many as 8 respondents (32%). Based on parity, the majority of respondents are multiparous as many as 17 (68%), while primiparous as many as 8 respondents (32%).

**Frequency Distribution of Respondents' Afterpain**

**Table 2** Frequency Distribution of Respondents' Afterpain (N = 25).

| **Respondent Afterpain** | **f** | **%** |
|---|---|---|
| ***Pre-Test*** | | |
| Mild Pain | 3 | 12% |
| Moderate Pain | 9 | 36% |
| Severe Pain | 13 | 52% |
| ***PostTest*** | | |
| No Pain | 3 | 12% |
| Mild Pain | 15 | 60% |
| Moderate Pain | 6 | 24% |
| Severe Pain | 1 | 4% |

Based on table 2, it can be seen that of the 25 respondents who experienced afterpain before, the majority experienced severe pain, as many as 13 respondents (52%), moderate pain as many as 9 respondents (36%), and mild pain as many as 3 respondents (12%). After being given the intervention, the majority of respondents experienced mild pain as many as 15 respondents (60%), moderate pain as many as 6 respondents (24%), severe pain as many as 1 respondent (4%), while no pain as many as 3 respondents (12%).

**The Effect of Pain Before and After Using a Compress Ball on After Pain in Postpartum Mothers**

**Table 3** Differences in Pre-Pain and Post-Pain in Postpartum Mothers After Intervention – Before Intervention

| | |
|---|---|
| **Z** | **-4.038b** |
| **Asymp. Sig. (2-tailed)** | .000 |

Based on Table 3, it can be concluded that there is an effect of applying a compress ball on afterpain in postpartum mothers. The results of the analysis show that the p-value is 0.000 becausethe value of ρ is smaller than the value of α = 0.05, then Ha can be accepted.

**Discussion**

This study shows that complementary therapy using herbal compress balls significantly reduces the intensity of postpartum afterpain. These results provide an important contribution to postpartum pain management, which is often a challenge for new mothers.

Based on research conducted at the Basarang Community Health Center, the majority (15 respondents) were aged 20-25, while the minority (4 respondents) were aged 31-36. The age of 2025 is the period when pregnant women face the lowest health risks. This period is generally considered the ideal time for pregnancy and childbirth, and it also raises concerns about pregnancy and childbirth.(Devina, Nurmasitoh 2025)Ayu's (2017) research found that most respondents were of healthy reproductive age, and physiologically, at that age, mothers were still strong enough to endure labor pain. However, postpartum recovery is highly individual and influenced by various factors such as environment, race, specific actions, and coping patterns. Age is a contributing factor, as older individuals tend to have higher pain thresholds, but tissue elasticity decreases.

Based on research conducted by the Basarang Community Health Center, the majority of 19 respondents (76%) had a high school education, while a minority (1 respondent) had a college education. The majority of respondents in this study had a high school education. Higher levels of education generally make it easier for individuals to understand health information, which can influence the effectiveness of interventions.

Based on research conducted by the Basarang Community Health Center, the majority of unemployed respondents (17 respondents) (68%), and a minority (8 respondents) were employed. The benefits of many unemployed mothers include faster recovery time and more

time to focus on postpartum care. However, compared to working mothers, they are more focused on work, but their knowledge of postpartum science is broader. Therefore, working mothers certainly interact more with others, such as working with others and in collaboration, and interaction, there is certain communication. This communication is one way to gain knowledge from people who have studied or experienced something, so that from this experience, they can be shared with colleagues who might experience similar problems, such as danger signs of pregnancy.

Based on research conducted at the Basarang Community Health Center, the majority of respondents were multiparous (17 respondents (68%), and the minority were primiparous (8 respondents (32%). This proves that in the Basarang Community Health Center area, mothers who experience afterpain in multiparous parity are due to previous postpartum experiences. According to researchers, previous childbirth will experience the return of the mother's body to its original state. The level of pain in the perineum is influenced by previous childbirth experiences. Multiparous mothers are usually more physically and mentally prepared because they have given birth before and experienced stitch pain. Conversely, primiparous mothers who are giving birth for the first time tend to experience more intense pain because they have no experience and their cervix requires stronger contractions to open, in contrast to the more flexible cervix of multiparous women.(Yulviana and Sari 2025).

Based on Table 2 conducted at the Basarang Community Health Center, the results of the pain research showed that before the majority experienced severe pain, 13 respondents (52%) and a minority experienced mild pain, 3 respondents (12%). After the intervention, the majority experienced mild pain, 15 respondents (60%), and a minority experienced severe pain, 1 respondent (4%).

Although pain remained moderate (4–6 on the scale), there was a two-level decrease in pain, indicating improved pain perception. Previous childbirth experiences influence pain levels. Therefore, midwives can provide support, encourage activities such as prenatal exercise, and provide appropriate labor preparation. Family support is also crucial for reducing pain intensity.(Puspita, Nurhayati, and Cahyati 2025).

Puerperium, also known as nifas, can also be understood as the postpartum period, which is the six weeks following the baby's birth and the placenta's release from the uterus. During this time, the uterine organs that undergo changes due to childbirth, such as injuries, recover.

This research aligns with Romadhon's (2021) study, which showed that after cinnamon administration, pain levels decreased to mild, with the majority of respondents experiencing a reduction from moderate pain. The reduction in pain scale in the intervention group was very significant.(Romadhon et al. 2021). Aulia's (2024) research also stated that giving cold compresses to postpartum mothers with perineal wounds caused a decrease in pain, from moderate to mild pain, dry wounds, smooth breast milk flow, no swelling and no signs of infection in the perineal wound.(Vioni Aulia, Eka Saputri 2024).

Herbal ball compresses are traditionally used to reduce pain and promote relaxation. In this study, the ball compresses used contained herbal ingredients such as ginger, turmeric, and lemongrass, which are known to have anti-inflammatory and analgesic properties. The heat generated by the herbal ball compress can help improve blood circulation and relieve muscle tension, ultimately reducing the intensity of afterpain. The mechanism of action of heat in reducing pain has been widely documented in the medical literature, which suggests that the application of heat can inhibit the transmission of pain signals to the brain. Herbal ball compresses usually contain a variety of herbs selected for their therapeutic properties. Some commonly used herbs include: Turmeric (Curcuma longa): Has strong anti-inflammatory and analgesic properties, helping to reduce inflammation and pain. Ginger (Zingiber officinale): Stimulates blood circulation and has a warming effect that can relieve muscle pain. Lemongrass (Cymbopogon citratus): Contains compounds with antimicrobial and anti-inflammatory properties. Kaffir lime leaves (Citrus hystrix): Have a refreshing aroma and can help reduce stress. Camphor (Cinnamomum camphora): Provides a soothing, cooling effect on the skin.(Andarwulan, Hubaedah, and Hakiki 2022).

The mechanism of compress balls is that they work through several mechanisms, including: 1) Thermal Effect: Heating the compress ball before application helps release the active compounds from the herbs, which can then penetrate the skin and underlying tissue. Heat also helps relax tense muscles and increase blood flow to the treated area. 2) Absorption of Active Compounds: Bioactive compounds from herbs such as curcumin from turmeric, gingerol from ginger, and citral from lemongrass are absorbed through the skin. These compounds have anti-inflammatory, analgesic, and antimicrobial effects that can help reduce pain and inflammation. 3) Therapeutic Aroma: The aroma of herbs such as kaffir lime leaves and lemongrass provides an aromatherapy effect, which can help reduce stress and promote relaxation. This is important for postpartum mothers who may experience stress and anxiety. 4) Acupressure Stimulation: The application of herbal compress balls involves applying

pressure to specific points on the body similar to acupressure techniques. This helps stimulate energy flow and improve balance in the body.(Astutik and Purwandari 2021).

The use of herbal compress balls has various benefits, including: 1) Pain Reduction: This therapy is effective in reducing muscle pain, joint pain, and postpartum pain (afterpain) through a combination of thermal effects, absorption of active compounds, and acupressure stimulation. 2) Increased Blood Circulation: The heat and pressure from the compress ball helps increase blood flow to the treated area, which can speed the healing process and reduce inflammation. 3) Relaxation and Stress Reduction: The herbal aroma and massage effect of the compress ball helps relax the body and mind, reducing stress and anxiety. 4) Anti-inflammatory and Antimicrobial Effects: The herbs used in the compress have anti-inflammatory and antimicrobial properties that can help reduce inflammation and prevent infection.(Astutik and Purwandari 2021).

The results of this study are relevant in a clinical context because they provide an effective non-pharmacological alternative for postpartum pain management. This complementary therapy not only reduces reliance on pharmacological analgesics, which can have side effects, but also supports holistic recovery by improving the physical and emotional well-being of postpartum mothers.

The results showed that there was an effect of applying compress balls (ginger, turmeric, lemongrass) on afterpain in postpartum mothers in the Basarang Community Health Center UPT work area, as shown by the results of parametric statistical tests using Paired t-test obtained a pvalue of 0.000 (<0.05). The intervention given was in the form of providing compress balls.

## 4. CONCLUSION

Based on the research results and discussion that have been explained, before the herbal therapy compress ball was administered, the majority of postpartum mothers were in the severe pain category (13 respondents (52%). After the herbal therapy compress ball was administered, the majority of postpartum mothers were in the mild pain category (15 respondents (60%).

Based on the results obtained, there is an effect of applying compress balls (ginger, turmeric, lemongrass) on afterpain in postpartum mothers in the Basarang Community Health Center working area with a p-value = 0.000 < 0.05. The effectiveness of this complementary therapy shows great potential in postpartum pain management, offering a safe and non-pharmacological alternative. This therapy not only helps reduce dependence on

pharmacological analgesics, but also supports the holistic recovery of postpartum mothers, improving their quality of life in the postpartum period.

Suggestions for research include conducting this study in different locations, increasing knowledge and understanding of reducing afterpain in postpartum mothers. Suggestions for health workers include serving as a hub for information on how to manage afterpain in postpartum mothers.

The researcher's recommendation for further research is to expand the variables and explore new findings on afterpain in postpartum mothers. The recommendation for the public is that this research will broaden respondents' and the public's knowledge of the effects of applying a compress ball on afterpain in postpartum mothers.

## REFERENCES

Andarwulan, Setiana, Annah Hubaedah, and Miftahul Hakiki. 2022. "The Effect of Gymball and Herbal Compress on Head Descent and Pain Intensity in the First Stage of Active Labor." 4(1).

Astutik, Reni Yuli, and Eka Sri Purwandari. 2021. "Differences in Relaxation and Warm Compresses in Reducing Afterpain in Postpartum Mothers in Kediri Regency." : 33-41.

Basyouni, Niven R, and Isis E Gohar. 2017. "Effect of Breathing Exercise on After Pain among Postpartum Women." 6(2): 88-96. doi:10.9790/1959-0602068896. https://doi.org/10.9790/1959-0602068896

Devina, Nurmasitoh, Affan Solihin. 2025. "EDUCATION ON THE USE OF BERAS KENCUR JAMU AS A TRADITIONAL THERAPY TO REDUCE AFTERPAIN IN POSTPARTUM MOTHERS AT TINGGI RAJA PUBLIC HEALTH CENTER." 04: 241-44. https://doi.org/10.54209/jumas.v4i02.276

Maternity, Dainty, Renny Dwijayanti, and Devi Kurniasari. 2022. "ON THE HEALING OF PERINEAL WOUNDS IN POST-PARTICIPANT MOTHERS IN THE WORKING AREA OF KARANG ANYAR COMMUNITY HEALTH CENTER, SOUTH LAMPUNG IN 2021." 6(3).

Namboothiri, Smitha P, and Lekha Viswanath. 2016. "Nature and Characteristics of After Pain among Postnatal Mothers Admitted in a Tertiary Care Hospital in South India." 5(9): 3041-45. https://doi.org/10.18203/2320-1770.ijrcog20162981

Niluh Sukmadewi, Nurliyani, Sunarsih, Susilawati. 2025. "Characteristics Associated with Perineal Rupture in Multiparous Mothers Giving Birth." 13(2): 279-90.

Puspita, Bunga, Fitri Nurhayati, and Nanik Cahyati. 2025. "The Effect of Combination of Cold Gel Therapy and Cinnamon Decoction on Reducing Pain in Perineal Wounds." 14(2): 130-35. doi:10.62094/jhs.v14i2.255. https://doi.org/10.62094/jhs.v14i2.255

Riyan, Dwi, Ariestantia Musrifin, Besse Lidia, and Siti Saidah. 2023. "Effectiveness of Combination of Herbal Complementary Therapy Compress Ball with Jasmine Aromatherapy to Reduce Afterpain During Postpartum." 5(1): 89-95.

Romadhon, Fenta Nida, Ratna Dewi Putri, Yulistiana Evayanti, H Zarma, Health Service, and Lampung Province. 2021. "Administration of Cinnamon Extract for Perineal Wound Pain in Postpartum Mothers." 7(4).

Silvia Rahmawati, Norman Wijaya Gati. 2024. "APPLICATION OF SITZ BATH THERAPY WITH GERANIUM OIL AROMATHERAPY FOR PAIN IN PERINEAL LACERATED WOUNDS IN POSTPARTUM MOTHERS." 2(4): 848-57.

Tafazoli, Mahin, and Maryam Khadem Ahmadabadi. 2013. "Assessment of Factors Affecting Afterpain in Multiparous Women Delivered in Mashhad 17-Shahrivar Hospital." (12): 8-11.

Vioni Aulia, Eka Saputri, Nur Israyati. 2024. "GIVING COLD COMPRESS TO REDUCE PERINEAL WOUND PAIN IN PMB DINCE SAFRINA PEKANBARU CITY IN 2023." 3: 1-8.

Yulviana, Rina, and Intan Widya Sari. 2025. "THE EFFECT OF BIRTH BALL ON THE INTENSITY OF LABOR PAIN IN THE FIRST ACTIVE PHASE AT THE DELIANA PRATAMA CLINIC." 7(2): 159-63.

Zahara, Rita, Hikmah Ifayanti, Riona Sanjaya, Elsy Juni, and Andri Kariny. 2024. "The Effect of Sitz Bath Technique on Perineal Rupture Pain in Postpartum Mothers at the Asa Ibu Medika Negeri Katon Pesawaran Clinic in 2024." 5: 762-76.