Compress Ball Therapy To Reduce Back Pain In Pregnant Women

Putri Ardila Dinanti [1], Fitri Nuriya Santy [2], Apri Rahma Dewi [3*] , Rusmala Dewi[4]
[1,2,3,4] The Panca Bhakti Nursing Study Program in Bandar Lampung, Lampung, Indonesia

*corresponding author: apri@pancabhakti.ac.id

ABSTRACT

Low back pain due to pregnancy is a clinical syndrome characterized by the main symptom being pain in the back of the body. The cause of complaints of low back pain that occurs in the third trimester of pregnancy is the increase in body weight during pregnancy. Low back pain that is not treated immediately can have a negative impact on the quality of life of pregnant women. Low back pain in third trimester pregnant women can be treated with non-pharmacological therapy, one of which is with*Herbal Therapy Compress Ball.* This study aims to identify and analyze low back pain in third trimester pregnant women before and after administration*Herbal Therapy Compress Ball.* The design used in this study uses a case study approach. The subject of this study involved 2 respondents who fit the inclusion criteria. The instrument used in this study used the NRS pain scale method, as well as using SOP*Herbal Therapy Compress Ball.* The results of the study were obtained for respondent 1 initial pain scale, namely 5 (moderate pain) to 2 (mild pain), while respondent 2 initial pain scale was 6 (moderate pain) to 3 (mild pain). The conclusion of this study is application*Herbal Therapy Compress Ball* can reduce the scale of low back pain in third trimester pregnant women.

Keywords :*Herbal Therapy Compress Ball*, Lower Back Pain, 3rd Trimester Pregnant Women

INTRODUCTION

Pregnancy is the meeting of the egg and sperm inside or outside the uterus and ends with the release of the baby and placenta through the birth canal. The gestation period is determined from the time of conception until the birth of the fetus, the normal period of pregnancy is 280 days (40 weeks or 9 months 7 days) from the first day of the last menstruation. Pregnancy is divided into 3 trimesters: first trimester, from conception to third month (0-12 weeks); Trimester II, from the fourth month to six months (13-28 weeks); third trimester from seventh to ninth month (29-42 weeks) (Fatimah & Nuryaningsih, 2017).

The discomfort experienced by pregnant women often varies from the first trimester to the third trimester. The changes that occur during pregnancy are often something that pregnant women complain about, including nausea, vomiting in early pregnancy, constipation,varicose veins (veins), urinary tract disorders, hemorrhoids, swelling of the legs and feet, to back pain.

About 88.2% of pregnant women experience back pain. The results showed that 68% of pregnant women experienced moderate back pain and 32% of pregnant women experienced mild back pain. 47-60% of these pregnant women report that back pain often occurs between the 5th to 7th month of pregnancy. These changes are caused by the growing weight of the uterus, bending excessively, walking too much, and lifting weights that are too heavy. Symptoms of back pain are also caused by the hormones estrogen and progesterone which relax the joints, ligaments and muscles of the hip (Purnamasari & Widyawati, 2019).One of the causes of low back pain is due to hormonal changes that cause changes in the supporting and connecting soft tissues,thereby reducing the elasticity and flexibility of the muscles. Back pain that is not treated immediately will result in prolonged back pain, increase postpartum back pain and can result in chronic back pain which will be difficult to cure (Gozali*et al*, 2020).

Low back pain is a type of sensory neuropathy pain. Sensory neuropathic pain is a type of peripheral neuropathic pain that occurs when there is interference with the nerves that transmit sensory signals such as the sensations of touch, temperature, or pain. The management of low back pain in pregnancy varies, such as pharmacological or non-pharmacological management.

Non-pharmacological management is pain management without using drugs. One of the non-pharmacological pain management to reduce low back pain in pregnancy can be done byHerbal Therapy Compress Ball (Kusumawatiet al, 2019).

Herbal Therapy Compress Ball it has been used in Thailand for hundreds of years as a traditional medicine or as a modality therapy in musculoskeletal and rehabilitative medicine. EffectHerbal Therapy Compress Ball this comes from heat conduction which can be useful for increasing regional blood flow, anti-inflammatory, and relaxation. Content fromHerbal Therapy Compress Ball very varied depending on the availability of herbal ingredients from each region.Herbal Therapy Compress Ball also often used only with ginger-based ingredients, based on research results herbal compresses with ginger can provide a hot, stimulating and relaxing effect on the body, especially for someone who has pain disorders in the musculoskeletal system (Tasnimet al, 2020).

Research conducted on pregnant women in Indonesia who experiencelow back pain or lower back pain in pregnancy reaches 60-80%. Low back pain that is not treated immediately can have a negative impact on the quality of life of pregnant women because it will interfere with the daily physical activities of pregnant women. Low back pain in third trimester pregnant women can be treated with non-pharmacological therapy, one of which is with Herbal Therapy Compress Ball (Amalia et al, 2020). The purpose of this case study is a study to explore the problem of nursing care in third trimester pregnant women with low back pain nursing problems by giving Herbal Therapy Compress Ball at PMB Wirahayu.

.

METHOD

The design used in this study uses a case study approach with the aim of providing a description of the phenomenon studied by the participants.This type of case study approach in research uses case study. Subjects in the application of this intervention were two respondents using a non-probability sampling technique with a sampling approachpurposive sampling namely by selecting a sample from a population that has been determined according to what the researcher wants (Putriet al, 2022).

The inclusion criteria in this study were pregnant women in their third trimester aged 20-35 years, pregnant women who were experiencing lower back pain, respondents did not experience back pain due to illness,congenital abnormalities or other trauma, cooperative respondents in the research process, willing to be a respondent and sign the sheetinfromed consent.

The instruments used in implementing this intervention were research explanation sheets, consent sheets (informed consent), Pain scale observation sheet using NRS (Numeric Rating Scale), Pain intensity assessment sheet before and after intervention, Standard Operating Procedure (SOP) Herbal Therapy Compress Ball.

Data collection starts from Before being given Herbal Therapy Compress Ball, Respondents were given a pain intensity assessment sheet using the NRS method (Numeric Rating Scale) to determine the scale of low back pain before it is given Herbal Therapy Compress Ball. Then steam Herbal Therapy Compress Ball which contains ginger, nutmeg, cloves (± 250 gr) for 10-15 minutes and left for about 2 minutes to reduce the temperature.Then putHerbal Therapy Compress Ball on the lower back of the respondent who experienced pain for 1x20 minutes in one day.

Every five minutes Herbal Therapy Compress Ball replaced with a product that is still warm and put it back on the lower back of the respondent. Once given Herbal Therapy Compress Ball, on the same day with an interval of about 10 minutes after the application was carried out, the respondent filled out the NRS method pain intensity assessment sheet again (Numeric Rating Scale) to determine the scale of low back pain after administrationHerbal Therapy Compress Ball, Then fill in the pain scale observation sheet to find out the results of lower back pain measurements before and after being givenHerbal Therapy Compress Ball.

RESULTS

This application was carried out on 2 third trimester pregnant women. As for the description of the two subjects of application which obtained during the study are as follows:

Tabel 1. Case Subject Description

Identity	Participant 1	Participant 2
Name	Mrs. A	Mrs. S
Adress	Gg Rajawali, Pidada panjang	Gg Cobra, Srengsem panjang
Age	25 th	27 th
Parity	G1 P0 A0	G1 P0 A0
Gestational Age	34 week	35 week
Education	SMA	D3
Work	Work House	Work House

Tabel 2. Result of Observation of Lower Back Pain Intensity Before Application Compress Ball Therapy

Participant	Pain Scale	Category
Mrs. A	5	Moderate pain
Mrs. B	6	Moderate pain

Tabel 3. Result of Observation of Lower Back Pain Intensity After Application Compress Ball Therapy

Participant	Pain Scale	Category
Mrs. A	2	Mild pain
Mrs. B	3	Mild pain

Based on the table 2 above, the results of the intensity of back pain in Ny. A with a scale of 5 (Moderate Pain) and Mrs. S with a scale of 6 (Moderate Pain) before applicationHerbal Therapy Compress Ball. Based on the table 3 above, the results of the intensity of low back pain in Ny. A with a scale of 2 (Mild Pain)and Mrs. S with a scale of 3 (Mild Pain) after applicationHerbal Therapy Compress Ball.

DISCUSSION

Low back pain in pregnant women in the third trimester is caused by changes in posture that occur due to the addition of the greater burden of the womb which causes an increase in the angle of curvature of the spine. Increasing the angle of curvature causes flexibility and mobility of the lumbar to decrease (Wahyuni & Prabowo, 2012).

Age 20-35 years is the right age for pregnancy because the muscles and reproductive organs are ready to deal with changes during pregnancy. The readiness of these muscles will affect the complaints experienced by mothers during pregnancy, including lower back pain. Young people or less than 20 years will find it difficult to control pain. Reproductive age is more than 35 years, physical and organ functions have decreased (Kumala, 2021).

Based on the characteristics of the respondent's gestational age, respondent 1 is currently at 34 weeks' gestation and respondent 2 is at 35 weeks' gestation where both are included in the 3rd trimester of pregnancy. the size and weight of the uterus increases. The increasingly heavy size of the uterus will put pressure on the muscles and joints of the spine, resulting in lower back pain. Most of the back pain complaints of pregnant women occur in the third trimester. The addition of gestational age causes a change in posture during pregnancy resulting in a shift in the body's center of gravity forward, so that if the abdominal muscles are weak it causes indentation of the bones in the lumbar region and causes back pain (Kumala, 2021).

In this study, the two respondents were primigravida, where the pain felt by patients was only mild to moderate pain. According to research, multiparous and grandemultiparous women will experience back pain and are more at risk compared to primigravida women because their muscles are weaker, causing failure of the muscles to support parts of the uterus or the uterus getting bigger. Without any support or support, the uterus looks slack and the back extends its curvature. Weakness in the muscles in the abdomen is generally experienced by multigravida (Arummega et al, 2022).

In this study, respondent Mrs A's last education was high school, while Mrs S's last education was D3. Education is needed to obtain information such as things that support health so that it can improve the quality of life. The higher the education of the mother, the easier it will be for the mother to get information about discomfort during pregnancy and how to deal with it

affects the mother's response to pain because when they know what to do when they experience pain, the mother is no longer worried that the pain will increase because they have know what to do to reduce it so that pregnant women who get the right information will tend to experience less pain (Adita et al, 2021).

Healthy pregnant women will experience weight gain. The spine, which is in charge of supporting the body, will be burdened with this added weight. This causes pain in the pelvis and back, especially the lower back. The growth of the baby that makes the womb get older, the size of the fetus gets bigger, so does the uterus. The growth of the fetus and uterus will put pressure on the blood vessels and nerves in the pelvic and back areas, so that these parts will feel painful (Ruliati, 2019).

Excessive daily activities can also affect low back pain in pregnant women and can have a negative impact on the ability of pregnant women to carry out daily activities such as self-care, walking, sitting and engaging in sexual activities. Some household chores such as sweeping, mopping, cleaning, picking up and carrying buckets filled with water, splittingand cooking with firewood, caring for children, and so on, usually stress the lower back area, and with changes in body load and mechanics during pregnancy it can easily settle and exacerbate low back pain in pregnant women (Arummegaet al, 2022).

Low back pain can occur in primiparous and multiparous women, according to research that multiparous and grandemultiparous women will experience back pain and are more at risk compared to primiparous women because their muscles are weaker causing failure of the muscles to support the uterus or the uterus is getting bigger. Without any support or support, the uterus looks slack and the back extends its curvature. Weakness in the muscles in the abdomen is generally experienced by grandemultipara (Arummegaet al, 2022).

Based on the results of the research after being given the application herbal therapy compress ball given for 1 x 20 minutes in 1 day to two respondents at PMB Wirahayu, the results of the lower back pain scale were obtained for respondent 1 Ny. A decreased to 2 (mild pain) from 5 (moderate pain). Meanwhile at Mrs. S decreased to 3 (mild pain) from 6 (moderate pain). Herbal Therapy Compress Ball is a traditional treatment and rehabilitation for painful syndromes in disorders of the musculoskeletal system using herbal ingredients. The herbal ingredients are wrapped in a warm compress ball form which becomes active including aromatic oils and provides an analgesic effect when applied to the skin.certain parts of the

body that experience pain. Benefits of givingHerbal Therapy Compress Ball on the body, namely increasing blood flow to injured parts of the body, increasing the delivery of leukocytes and antibiotics to painful areas, increasing the movement of wastes and nutrients, increasing muscle relaxation and reducing pain due to muscle stiffness (Tasnimet al, 2020).

The content of the ingredients found on Herbal Therapy Compress Ball namely ginger, nutmeg and cloves. Ginger (zingiber) contains about 1-2% essential oils and 5-8% resin, starch and gum materials. The ginger oil that gives ginger its aromatic properties contains a mixture of more than 20 elements. Ginger can provide a warming, stimulating and relaxing effect on the body with various health conditions, especially pregnant women who experience musculoskeletal system pain.On cloves (Aromatic syzygium) there are active compounds contained inClove leaves include eugenol, flavonoids, saponins, alkaloids which have an analgesic effect. Nutmeg is a spice plant that produces essential oils and special fats derived from seeds and mace. Nutmeg seeds produce 2-5% essential oil and 30-40% fatty oil while mace produces 7-18% essential oil and 20-30% fat. Nutmeg contains chemical compounds. These chemical compounds are essential oils, tannins, starch, saponins, myristicin, elemisi, lipase enzymes, pectin, lemonene and oleanolic acid.When all the ingredients are combined in a compress, they will provide their respective properties to a sick body, including a stressed mind to relax and help solve respiratory problems when inhaling the refreshing fragrance from the compress.(Kumala, 2021).

Based on the results of research conducted by Kumala (2021) it shows the level of back painbelow that felt by pregnant women in the third trimester before being givenHerbal Therapy Compress Ball namely the level of pain five as many as seven respondents with a percentage of 35% and after being givenHerbal Therapy Compress Ball to a pain level of three as many as 11 respondents with a percentage of 55%. These results indicate that there is a decrease in the average pain scale. This figure indicates a decrease in the average pain intensity before being givenHerbal Therapy Compress Ball.

Based on the results of research conducted by Ambarwati (2022) the results of this study indicate that there is influenceherbal therapy compres ball on reducing the level of low back pain in third trimester pregnant women.TherapyHerbal Compress Ball as good as the use of ibuprofen in terms of reducing pain.Thai Herbal Compress proposed to exert its therapeutic effect through several mechanisms. First, this adventitious effect is most likely due to topical

application of heat. Topical heat therapy promotes increased nerve conduction via non-myelinated C fibers, which can inhibit pain signals traveling through the spinal segments. Heat also increases the extensibility of the connective tissue and the range of motion of the joints, thereby increasing the functionality of the joints.Herbal Compress Ball also provides an aromatherapy effect Aromatherapy effect ofHerbal Compress Ball serves to relax the mind so that the respondent experiences a shift in the focus of the pain being experienced. Another effect obtained from the compress is increasing the delivery of leukocytes and antibiotics to the affected area, and reducing pain due to spasm or stiffness, increasing blood flow andincrease the movement of waste materials and nutrients (Kusumastutiet al, 2020).

CONCLUSION

Based on the results of the research and discussion, several conclusions were drawn as follows. Prior to implementationHerbal Therapy Compress Ball At PMB Wirahayu, the lower back pain scale was found in respondent 1 Ny. A, namely with a pain scale of 5 (moderate pain) and 2 respondents Ny. S is with a pain scale of 6 (moderate pain). After implementationHerbal Therapy Compress Ball At PMB Wirahayu, the lower back pain scale was found in respondent 1 Ny. A, namely with a pain scale of 2 (mild pain) and 2 respondents Ny. S is with a pain scale of 3 (mild pain).

Future researchers are expected to conduct more in-depth research by makingHerbal Therapy Compress Ball as inhalation to treat respiratory problems and further research is expected to use a control group as a comparison medium in order to determine the effectiveness ofHerbal Therapy Compress Ball and can use more respondents, and future researchers are expected to be able to maintain the temperatureHerbal Therapy Compress Ball remain warm according to a predetermined temperature when it will be applied to the respondent.

ACKNOWLEDGE

Thanks to the respondents and STIKes Panca Bhakti for motivation and support the research

REFERENCE

Adita, L., Saudah, N., & Dewi, C.P.L. (2021). Gambaran Nyeri Punggung Pada Ibu Hamil Trimester III Di Puskesmas Puspo. *Sekolah Tinggi Ilmu Kesehatan Bina Sehat PPNI Mojokerto*.

Amalia, A.R., Erika., & Dewi,A.P. (2020). Efektivitas Kompres Hangat Terhadap Intensitas Nyeri Punggung Pada Ibu Hamil Trimester III. *Journal of Holistic Nursing and Health Science*, 3(1), 24–31.

Arummega, M.N., Rahmawati, A., & Meiranny, A. (2022). Faktor-Faktor yang Mempengaruhi Nyeri Punggung Ibu Hamil Trimester III: Literatur Review. Oksitosin : *Jurnal Ilmiah Kebidanan*, 9(1), 14–30.

Fatimah & Nuryaningsih. (2017). *Buku Ajaran Asuhan Kebidanan Kehamilan*. Jakarta: Fakultas kedokteran dan Kesehatan Universitas Muhammadiyah Jakarta,1-3.

Gozali, W., Astini, N.A.D., & Permadi, M.R. (2020). Intervensi Nyeri Punggung Pada Ibu Hamil Di Desa Pengelatan. *International Journal of Natural Science and Engineering*,4(3), 134–39.

Kumala, G.A.P. (2021). Manfaat Herbal Therapy Compress Ball Nyeri Punggung Bawah Ibu Hamil Trimester III di Praktik Mandiri Bidan, 14-32. *Poltekkes Denpasar*.

Kusumastuti, N.M.G., Kusumaningtiyas, D.P.H., & Sudiyono, I.K. (2020). Pengaruh Pemberian *Herbal Compress Ball* Terhadap Intensitas Nyeri Rheumatoid Arthritis Pada Lansia Di Desa Mendoyo Dauh Tukad Kabupaten Jembrana. *Indonesian Journal Of Health Research*, 3(1) , 1-9.

Kusumawati, T,T., Mintarsih, S., & Sulastri. (2019). Pemberian Kompres Jahe Untuk Menurunkan Nyeri Punggung Bawah Ibu Hamil Trimester III Pada Asuhan Keperawatan Maternitas. *Jurnal Publikasi*, 1-7.

Purnamasari, K.D., & Widyawati, M.N. (2019). Gambaran Nyeri Punggung Bawah Pada Ibu Hamil Trimester III. *Jurnal Keperawatan Silampari*, 3(1), 2581-1975.

Putri, S.T., Lameky, V.Y., Pangaribuan, S.M., Manurung, M.E.M., Mataputun, D.R., Wasilah, H., … Utami, R.A. (2022). *Metodologi Riset Keperawatan*. Yayasan Kita Menulis, 73.

Rahayu, N.A.P., Rafika., Suryani, L., & Hadriani. (2020). Teknik Mekanika Tubuh Mengurangi Tingkat Nyeri Punggung Bawah Pada Ibu Hamil Trimester III. *Jurnal Bidan Cerdas*, 2 (3), 139-146.

Ruliati. (2019). Penanganan Nyeri Punggung Pada Ibu Hamil Trimester Tiga Studi DI Pmb Lilis Suryawati Sst., M. Kes Kabupaten Jombang. *Well being*, 4(1), 11-20.