JURNAL ILMIAH ILMU KEPERAWATAN INDONESIA

Indonesian Nursing and Scientific Journal

Volume: 11 Issue: 04 Years: 2021 Original Article

Evaluation Of Midwifery Care In Trimester III Pregnant Women With Waist Pain

Liontin Valentina Febriani¹ Septi Maisyaroh Ulina Panggabean² Netty Herawaty Purba³

1,2,3STIKes Awal Bros Batam

Jl. Abulyatama Kelurahan Belian Kecamatan Batam Kota

Batam

Email Corespondent: liontin311@gmail.com



Editor: ks

Received: 11/11/2021 Accepted: 17/12/2021 Published: 30/12/2021 Available Article:

10.33221/jiiki.v11i04.1518

Copyright: ©2021 This article has open access and is distributable under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the name of the author and the original source are included. This work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

Conflict of interest statement: There is no conflict of interest in the preparation of this research

Funding : Personal Funding

Abstrak

Background: Pregnancy, Low back pain is discomfort that occurs below the ribs and above the inferior gluteal area. One of the causes of low back pain is due to hormonal changes that cause changes in the supporting and connecting soft tissues resulting in decreased muscle elasticity and flexibility and also occurs due to increasing gestational age. Increasing low back pain is seen as the pregnancy progresses. According to research, the higher the number of pregnancies, the risk of back pain will increase. The negative impact of low back pain is that it can cause a decrease in the quality of life of pregnant women due to disruption of daily physical activities.

Objectives: The purpose of the study was to evaluate the results of midwifery care provided to third-trimester pregnant women with low back pain.

Methods: The method used by the researcher is descriptive through a midwifery management approach and is documented with SOAP.

Results: The results of this study showed that pregnant women with low back pain after being given massage therapy felt that the pain had decreased.

Conclusion: The conclusion of this study shows that massage therapy affects reducing pain in the lower back that pregnant women feel in the third trimester.

Keywords: third trimester pregnant women, back pain

Introduction

Pregnancy is a physiological state that can be followed by a pathological process that threatens the condition of the mother and fetus. Pregnancy causes almost all of a woman's body to undergo changes, especially the uterine organs, as well as other organs to support the development and growth of the fetus. Physiological changes that occur during pregnancy have a pathological impact on pregnant women. Young pregnant women will feel nauseous, vomiting, feverish and weak. This nausea and vomiting will decrease until the first trimester ends. In the second trimester, the body has

begun to adapt and nausea and vomiting have begun to decrease. In the third trimester, complaints caused by abdominal enlargement, anatomical changes, and hormonal changes will cause complaints in pregnant women.² Various problems that arise in the third trimester of pregnancy are psychological problems that are often complained of by pregnant women, such as pain. Among these complaints, low back pain is the most commonly reported, occurring in 60%-90% of pregnant women, and is one of the causes of the incidence of cesarean delivery.³ Pain is a very common problem in pregnancy, especially in the third trimester of pregnancy. The phenomenon of pain has now become a complex problem defined by the International Society for The Study of Pain as "an unpleasant sensory and emotional experience resulting from actual or potential tissue damage". Pain causes fear and anxiety so that which can increase stress and drastic physiological changes during pregnancy. Pain and anxiety work synergistically, exacerbating each other.⁴

The phenomenon of pain in the lower back of pregnant women is one of the most frequently reported complaints among pregnant women, varying from 50% to 80%, based on previous studies in various countries, even 8% of them resulted in severe disability. Back pain is known as "low back pain" is a pain in the lumbosacral and sacroiliac regions. Low back pain is pain that is felt in the lower back area, it can be local pain (inflammation), or radicular pain, or both. Pain originating from the lower back can be referred to other areas, or conversely, pain originating from other areas is felt in the lower back area (referred pain). Low back pain is essentially a complaint or symptom and is not a specific disease. The problem of low back pain covers many aspects, not only suffering from the pain experienced but also causing economic waste and increasing health costs. Low back pain (lumbago) is back pain that occurs in the lumbosacral area. Low back pain will usually increase in intensity with advancing gestational age because this pain is the result of a shift in the woman's center of gravity and her posture. These changes are caused by the weight of the growing uterus. Back pain can also be caused by excessive bending, walking without rest, lifting weights. This is exacerbated when done when pregnant women are tired. Proper body mechanics when lifting weights is very important to avoid stretching the muscles.

Low back pain can also be caused by hormonal changes that cause changes in the supporting and connecting soft tissues, resulting in decreased muscle elasticity and flexibility. Pain management in low back pain in pregnant women that is applied pharmacologically and non-pharmacologically. If possible non-pharmacological treatment options should be considered before using pharmacological therapy, although most are more effective in reducing pain in pregnancy besides being expensive but also having more potential side effects for both mother and baby. Therefore, non-pharmacological pain management has become a highly developed thing at this time to reduce back pain during pregnancy because it has the advantage of being safer, simpler, and does not cause adverse effects and refers to maternal care, compared to pharmacological methods that have the potential to have negative effects. detrimental.

In the third trimester of pregnancy, several simple non-pharmacological methods can be given, namely 1) good posture practice, when the fetus is getting bigger, the body's center of gravity shifts forward. This will pull the muscles in the lower back which can cause back pain, 2) exercising regularly will make the body flexible and comfortable, in addition to supporting blood circulation, 3) massage the lower back often can help relieve tired and sore muscles, 4) Taking a warm bath, placing a hot shower or hot shower on the back can help with back pain, 5) sleeping on your side with one or both knees bent, 6) using a pillow under your stomach while sleeping, 7) Sitting and stand carefully.³ Based on research conducted by Handayany (2020) found that about 88.2% of pregnant women experience low back pain. At 14–22 weeks of gestation, approximately 62% of pregnant women report an incidence of low back pain.¹¹ Meanwhile, research conducted by Gozali (2020), about 70% of pregnant women experience low back pain (LBP) which may begin in the early trimester, the peak incidence of LBP occurs in the third trimester of pregnancy.¹² Low back pain experienced by pregnant women will reach its peak at week 24 to week 28, just before abdominal growth reaches its maximum point.¹³

If low back pain is not treated promptly, it can lead to long-term back pain, increasing the tendency for postpartum back pain and chronic back pain that will be more difficult to treat or cure. Other impacts that can occur from complaints of low back pain such as the mother feeling uncomfortable with activities or disrupted activities, experiencing changes in body structure. Back pain can be prevented by doing body exercises during pregnancy, namely by massage techniques, massage techniques in the back or sacrum using the base of the palm. Massage can include increasing muscle relaxation, calming nerve endings, and relieving pain. And relaxation techniques free the mind and burden from the tension that is deliberately sought and practiced. The ability to consciously and consciously relax can be used as a guide to reduce the normal discomforts associated with pregnancy.

Midwives, to help reduce back pain, include providing therapy such as massage (massage). Massage is a method that provides a comfortable pressing action by the hand on soft tissues, usually on muscles, tendons, and ligaments, without causing a shift or change in joint position to reduce pain, produce relaxation, and increase circulation, this method is one of the non-pharmacological methods that can increase patient satisfaction because the mother can control her feelings and strengths. ¹⁵ The benefits of massage include assisting in relaxation and reducing pain awareness by increasing blood flow to the painful area, stimulating sensory receptors in the skin and underlying brain, changing the skin, providing a general sense of well-being associated with human closeness, increasing local circulation, stimulating the release of endorphins, decreased endogenous catecholamines excitability of efferent fibers resulting in block to pain stimuli. ¹⁶

In Putriansyah's research (2020) which aims to see the different effects of non-pharmacological methods on reducing low back pain in third-trimester pregnant women with 2 non-pharmacological methods carried out on 10 samples, the results show that massage techniques are more effective in reducing low back pain in pregnant women. third trimester.¹⁷ Based on research conducted by researchers, the results of pregnant women experiencing low back pain at PMB Atlantica Amd.Keb Tangki Seribu Batam City showed that most pregnant women experienced low back pain as many as 20 people (60%) in the last 1 year from May 2020 until May 2021. Based on the description above, the researcher is interested in researching "Evaluation of midwifery care in third-trimester pregnant women with low back pain at PMB Atlantica Tangki Seribu City Batam".

Methods

This research method uses a descriptive method which is the subject of this research is 1 pregnant woman with low back pain problems, with a case study approach. The general purpose of the researcher to take this problem is to treat low back pain in third-trimester pregnant women, while the specific objectives are to collect data, analyze data, plan, implement and evaluate. The process of collecting data using direct interviews with patients and families, home visits, conducting physical examinations, observing and making discussions using related journals or books. In this case study, researchers carried out a midwifery care process that focused on evaluating midwifery care in third-trimester pregnant women with low back pain. The instruments used for data collection were sphygmomanometer, stethoscope, learned, thermometer, body length gauge, weight scale, Upper arm circumference, gauge, clock, hammer reflex, numeric scale. The Numerical Rating Scale (NRS) pain scale, which is based on a scale of 0-10

Results

The research was carried out for 2 visits, starting from May 06, 2021, to May 12, 2021, with a visit at PMB Atlantika, Amd.Keb Tangki Seribu Batam City on Mrs. R aged 24 years $G_1P_0A_0$. The research results obtained are:

First visit

Subjective data obtained by the researcher, namely Mrs. R said that at the first pregnancy examination, it was known that he was 22 years old, the first child. Gestational age of 37 weeks 1

day, during pregnancy the mother checked at PMB Atlantica, namely in the first trimester, 2 visits, 2 visits in the second trimester, and 2 visits in the third trimester. During the assessment, it was found that the main complaint in Mrs. R was a pain in her waist. In the history of the mother's current and past health and family health, the mother said that no one suffered from hereditary diseases such as DM, Hypertension, Heart, infectious diseases such as TB, Hepatitis, HIV/AIDS, chronic diseases such as Kidney, Heart, Lung. In the menstrual history, the mother said that the mother's HPHT was on August 16, 2020, and the interpretation of the mother's delivery as seen from the HPHT was May 23, 2021. The mother said that this was her first pregnancy. Mothers received TT_1 immunization at 24 weeks of gestation and TT_2 at 28 weeks of gestation. During the antenatal visit in this pregnancy, the mother received \pm 90 tablets of blood-enhancing drugs (Fe) and Kalk. The mother feels fetal movement for the first time at \pm 16 weeks of gestation. Fetal movements felt by the mother as much as $15^x/24$ hours.

The results of the assessment of objective data obtained that the mother's general condition was good, compliments awareness, stable emotional state, anthropometric measurements obtained blood pressure: 120/80 mmHg, temperature: 36.6°C, pulse: 80x/minute, Breathing: 22x/minute, bodyweight before pregnant: 48 Kg during pregnancy: 57 Kg gain: 9 Kg, Height: 155 cm, Upper arm circumference: 24 cm. Physical examination (head to toe) obtained results Head: Symmetrical head shape, hair color looks black, no edema, and no tenderness, Face: The face does not look pale, there is no cloasma gravidarum, and there is no tenderness, Eyes: Conjunctiva is not anemic, sclera is not icteric, good vision, Nose: Symmetrical nose shape, no polyps, and no tenderness, Mouth: Lips look clean, no dental caries is seen, tongue looks clean, there is no visible abnormality in the mouth, no bleeding gums, Ears: Symmetrical ear shape, no lesions, and good hearing, Neck: No enlargement of the thyroid gland, lymph, parotid, and jugular veins, Chest: No tightness, no chest wall action, no there is wheezing and crackles, Mammae: Symmetrical shape, hyperpigmentation, no mass, protruding nipples, no breastfeeding, Abdomen: No surgical scars, linea nigra, no striae gravidarum, swelling suggestion of uterus according to gestational age, Leopold I: 30 cm TFU, palpable in one part of the fundus round, soft, not bouncy, buttocks impression, Leopold II (Right): the right side of the mother feels elongated like a board, there is resistance and hard impression on the back, (Left): left side of the mother palpable small parts of the fetus impressed extremities, Leopold III: the lowest part of the fetus palpable round, hard and bouncy impression of the head, Leopold IV: not entered PAP (Convergent) (Maximum Punctum is in the lower right of the mother's center), TBJ: (30-12) x 155 grams = 2,790 grams, bladder: empty, external genitalia: no signs of infection, no varicose veins, no edema, and no enlargement of the batholin glands, anus: clean and no hameoroid, upper and lower extremities: symmetrical shape, no abnormalities such as polydactyly, syndactyly, no cyanosis, no edema, and active movement, Pelvic Examination (Outer Pelvic) Spinarum dystantia: 25 cm, Cristarum dystania: 28 cm, Conjugata External (Baudeloque): 18cm, Hip Circumference: 84 cm, Supportive Examination Hb: 13.1 g/dl, urine protein: negative.

Based on subjective data and objective data obtained, Mrs. R aged 22 years $G_1P_0A_0$ gestational age 37 weeks 1 day with low back pain in the third trimester. The management was given to Mrs. R with low back pain that occurred in the third trimester by providing care on how to reduce pain in the waist by sleeping using a prop pillow to straighten the back, sleeping on your side or side, warm water therapy, reducing activity weight, and doing gymnastics for pregnant women. Advise to consume nutritious food and take the medicine and vitamins that have been given. The recommended foods are foods that contain a source of energy, a source of building blocks, and a source of regulatory substances. Give a therapeutic massage (massage) by gently massaging the muscles of the side of the spine or concentrating on the lower back.

Second visit

On the second visit on May 12, 2021, subjective data obtained by the researcher, namely Mrs. R said at the second pregnancy examination it was known that at the age of 22 years, $G_1P_0A_0$ was 38

weeks pregnant, the mother said the pain in her waist had reduced. Fetal movements felt by the mother as much as 15^x/24 hours. The results of the assessment of objective data obtained that the mother's general condition was good, compliments awareness, stable emotional state, anthropometric measurements obtained blood pressure: 120/80 mmHg, temperature: 36.6°C, pulse: 80^x/minute, Breathing: 22^x/minute, bodyweight before pregnant: 48 Kg during pregnancy: 57 Kg gain: 9 Kg, Height: 145 cm, Upper arm circumference: 24 cm. Physical examination (head to toe) obtained results Head: Symmetrical head shape, hair color looks black, no edema, and no tenderness, Face: The face does not look pale, there is no cloasma gravidarum, and there is no tenderness, Eyes: Conjunctiva is not anemic, sclera is not icteric, good vision, Nose: Symmetrical nose shape, no polyps, and no tenderness, Mouth: Lips look clean, no dental caries appears, tongue looks clean, no abnormalities in the mouth are seen, no bleeding gums, Ears: Symmetrical ear shape, no lesions, and good hearing, Neck: No enlargement of the thyroid gland, lymph, parotid, and jugular veins, Chest: No tightness, no chest wall action, no there is wheezing and crackles, Mammae: Symmetrical shape, hyperpigmentation, no mass, prominent nipples, no breastfeeding, Abdomen: No surgical scars, linea nigra, absence of striae gravidarum, swelling uterine size according to gestational age, Leopold I: 30 cm TFU, palpable in one part of the fundus, round, soft, not bouncy, impression of buttocks, Leopold II (Right): the right side of the mother feels elongated like a board, there is resistance and hard impression on the back, (Left): left side of the mother palpable small parts of the fetus impressed extremities, Leopold III: the lowest part of the fetus palpable round, hard and bouncy impression of the head, Leopold IV: one finger can not meet the fifth (divergent), FHR: 142^x/minute (maximum punctum is in the lower right of the mother's center), TBJ: (30-11) x 155 grams= 2,945 grams, bladder: empty, external genitalia: no signs of infection, no varicose veins, no there is edema, and there is no enlargement of the batholin glands, anus: clean and no hameoroids, upper and lower extremities: symmetrical shape, no abnormalities such as polydactyly, syndactyly, no cyanosis, no edema, and active movement.

Based on subjective and objective data obtained, Mrs. R aged 22 years $G_1P_0A_0$ 38 weeks gestation with low back pain in the third trimester. The management provided is to continue to encourage the mother to increase rest time, sleep using a pillow to straighten the back, sleep position on the right or left side, avoid heavy work, give the mother massage on the lower back, continue to consume nutritious food and take medicine and vitamins. which has been given. The results from this second visit were that the pain in the mother was reduced, the mother was able to demonstrate techniques to reduce pain, the mother also said that the feeling of comfort after the pain was reduced.

Discussion

Low Back Pain Intensity Before Massage (Massage)

Based on research that has been done at PMB Atlantika, Amd. Keb Tangki Seribu, Batam City, shows that Mrs.R is 22 years old $G_1P_0A_0$ before being given a pain scale massage in the moderate pain category. This can happen because pain is subjective. The pain scale is subjectively said by Mrs. R and we only listen to what the mother says. In general, pain is an uncomfortable feeling that is very subjective, and only the person experiencing it can explain and evaluate the feeling. Back pain experienced by every pregnant woman is generally not always the same, some pregnant women experience it since the early days of pregnancy, others experience back pain in mid-pregnancy or even before birth. 18

The results of midwifery care for Mrs. R who experienced low back pain were the majority of third-trimester primigravida mothers. The results showed that primigravida mothers experienced more low back pain. This happens because of increasing gestational age. Increasing low back pain is seen as the pregnancy progresses. According to research, it is also stated that the higher the number of pregnancies, the risk of back pain will increase. Weight gain in pregnant women also affects back pain because when the uterus enlarges the structure of the pelvic bones will gradually change. It is normal for pregnant women to gain weight, but excessive weight gain will affect the muscles to work

more so that it can cause stress and back pain.²⁰ The results of the study Mrs. R experienced a weight gain of 9 kg. By the theory of Nurmianto (2018) In Press (2021) states that the more weight you gain, the more it will disturb the spine, which then results in lower back pain. Gaining weight can cause excessive changes in body posture so that the body's center of gravity shifts forward which causes the muscles around the pelvis to become unbalanced, resulting in back pain.²¹

In late pregnancy, the woman's body posture changes to compensate for the weight of the growing uterus. According to Putriansyah (2020) low back pain also occurs due to the increasing gestational age. The bigger it can cause an increase in the burden of the uterus so that there is a stretch in the lower back of pregnant women. Weight gain during pregnancy causes the bones that function to support the body to be disturbed. The posture of pregnant women will also change to compensate for increasing gestational age. This causes lower back pain experienced by pregnant women. 23

The results of the study Most of the third trimester pregnant women experienced lower back pain, namely 60%. According to Juliarti (2018), low back pain can occur if pregnant women lift heavy objects which results in pelvic muscle tension. All dangerous movements that should not be done are all rotating movements while lifting weights. This is by the results of the study that most of the mothers' jobs are housewives. According to the results of interviews conducted with pregnant women in the third trimester, they have many household tasks to do at home, such as ironing, sweeping, preparing food in a standing position for a long time. This will increase the incidence of low back pain in third-trimester pregnant women. If back pain is not treated immediately it can result in long-term back pain, increasing the tendency for post-partum back pain and chronic back pain which will be more difficult to treat or cure. ³

The intensity of Lower Back Pain After Massage (Massage)

Based on the results of the study, it showed that after being given massage therapy the number of third-trimester pregnant women who experienced mild back pain had decreased. Massage is the application of hand pressure to soft tissues, usually muscles, tendons, or ligaments, without causing movement or change in joint position to relieve pain, produce relaxation, and/or improve blood circulation. The above opinion is supported by Hamdiah (2020) explaining that massage for pregnant women is a treatment in the form of a touch given to the skin and muscles aimed at stimulating circulation in the body and balancing blood flow throughout the body. The body will respond to increase blood circulation by producing red blood cells that carry oxygen and nutrients contained in the blood throughout the body so that it can reduce the pain that arises and prevent fatigue during pregnancy. A massage is also an act of caring for the mother so that it will increase the sense of security, improve the quality of life, especially for pregnant women.⁵ Massage can be done by giving massage to pregnant women in the third trimester to help reduce pressure on the nerves and muscles, this is because the massage movement can stimulate tense nerves and muscles so that they become relaxed. Nerve and muscle tissue that is experiencing relaxation can stimulate the body automatically to increase the endorphin hormone produced naturally by the brain, the endorphins hormone functions to reduce pain caused by muscle spasms. The amount of pressure and stimulation varies on various myofascial trigger points throughout the body. This is supported by Hamdiah's research (2020), that pregnant woman who are given massage therapy mostly experience a decrease in the pain scale.

This therapy makes the mother feel comfortable and relaxed. The response to back pain in third-trimester pregnant women is different for each person because the adaptation used is different according to the level of education, the more the individual does not have good coping with problem-solving, will cause stress and result in inadequate uterine contractions.³ Based on the results of the study, there was also an increase in the number of third-trimester pregnant women who experienced back pain after being given massage on the back, pregnant women experienced a decrease in pain after being given massage. This is because stimulation on the surface of the skin in the form of massage techniques produces impulses that are sent through large nerves on the surface of the skin. This stimulation blocks major nerve pain which causes messages to be not received by the brain, this

results in perception changes. In addition, this massage can reduce tense muscles and increase circulation in the affected area, so it can reduce the pain felt by pregnant women entering the third trimester of pregnancy.²⁵

The Effectiveness of Massage for Lowering Back Pain in Third Trimester Pregnant Women

Based on research and midwifery care that has been given to N.R aged 22 years $G_1P_0A_0$ 38 weeks gestational age that there is a significant difference in back pain before and after being given massage. This shows that there is a significant effect of massage on reducing pain in third-trimester pregnant women. Massage is a touch and massage technique for pregnant women. This technique can help provide a sense of calm and comfort during and before delivery. This is because massage stimulates the body to release endorphins which are pain relievers and can cause feelings of comfort. Endorphins are considered the best painkillers because they can be produced by the human body itself.

Based on the facts, theories, and studies above, it shows that massage can have a significant effect on reducing back pain in third-trimester pregnant women. As a midwife, she can teach pregnant women and their partners to do massage during the third trimester. The results of the above study indicate that massage is very effective in reducing low back pain in third-trimester pregnant women. Because massage has a non-pharmacological effect to reduce pain during and before delivery which does not harm the mother or fetus.

Conclusion

Based on the results of the research conducted, it can be concluded that Mrs. R aged 22 years $G_1P_0A_0$ 38 weeks gestation before giving massage experienced pain in the lower back, and after giving massage therapy it could reduce the intensity of low back pain in pregnant women. This means that massage affects reducing the intensity of low back pain in third-trimester pregnant women.

Conflict of Interest Declaration

There is no conflict of interest in the preparation of this research

Acknowledge

Thank you to all those who have helped with this research

Funding

Personal Funding

References

- 1. Oktaviani I. Volume 1 Kebidanan Teori dan Asuhan. 2018;5(01):33–9.
- 2. Purnamasari KD, Widyawati MN. Gambaran Nyeri Punggung Bawah pada Ibu Hamil Trimester III. J Keperawatan Silampari. 2019;3(1):352–61.
- 3. Sagitarini PN. Hubungan Senam Hamil Dengan Nyeri Pinggang Ibu Hamil Trimester Iii Di Rsia Puri Bunda. J Ris Kesehat Nas. 2019;3(2):24.
- 4. Purnamasari KD. Nyeri Punggung Bawah Pada Ibu Hamil Trimester Ii Dan Iii. J Midwifery Public Heal. 2019;1(1):9.
- 5. Hamdiah, Tanuadike T, Sulfianti E. Pengaruh Senam Hamil Terhadap Nyeri Punggung Bawah Pada Ibu Hamil Trimester III di Klinik Etam Tahun 2019. Indones J midwifery (IJM). 2020;3(1):40–5.
- 6. Dewi Candra Resmi, Soeharyo Hadi Saputro R. Pengaruh Yoga Terhadap Nyeri Punggung Bawah Pada Ibu Hamil Trimester III Di Puskesmas Kalikajar I Kabupaten Wonosobo. J Ilm Kesehat. 2017;8(1):1–10.
- 7. Nuruzzaman M. Syntax Literate: Terorisme Dan Media Sos Sisi Gel Berkembangnya Teknol Inf Komun Mohammad. 2018;3(8):27–38.
- 8. RPJMD. Perubahan Kualitas Tidur Ibu Hamil III Melalui Pregnancy Massage. Keperawatan Silampari. 2021;4:6.

- 9. Novita N, Asmalinda W, Setiawati D, Study PD, Jurusan Kebidanan K, Kesehatan Kemenkes Palembang P, et al. Pemberdayaan Ibu Hamil Trimester Iii Dan Keluarga Menggunakan Endorphin Massage Untuk Mengurangi Nyeri Pinggang Pada Kelas Ibu Hamil the Third Trimester Pregnant Women and Family Empowerment Using Endorphin Massage To Reduce Pain in Pregnant Class 1). JurnalnasionalUmpAcId. 2020;4(2).
- 10. Suarniti NLK, Cahyaningrum P lakustini, Wiryanatha IB. Terapi Pijat Ibu Hamil Untuk Mengurangi Spasme Otot Pada Masa Trimester Akhir Kehamilan. Widya Kesehat. 2019;1(2):11–9.
- 11. Handayany DA, Mulyani S, Nurlinawati. Pengaruh Endorphin Massage Terhadap Intensitas Nyeri. Pengaruh Endorphin Massage terhadap Intensitas Nyeri Punggung Bawah Ibu Hamil Trimester III. 2020;1(Edhorphin Massage):12–23.
- 12. Gozali W, Ayu N, Astini D, Permadi MR, D3 J, Fakultas Olahraga K, et al. Intervensi Nyeri Punggung pada Ibu Hamil di Desa Pengelatan. Int J Nat Sci Eng. 2020;4(August):134–9.
- 13. Diana W. Endorphin Massage Efektif Menurunkan Nyeri Punggung Ibu Hamil Trimester Iii. J Heal Sci. 2019;12(02):62–70.
- Setiawati I, Ngudia S, Madura H. Efektifitas Teknik Massage Effleurage Dan Teknik Relaksasi Terhadap Nyeri Punggung Pada Ibu Hamil Trimester III. Pros Semin Nas Poltekkes Karya Husada Yogyakarta. 2019:2.
- 15. Alita R. Hubungan Senam Hamil dengan Rasa Nyaman Tidur pada Ibu Hamil Trimester III. J Keperawatan Widya Gantari Indones. 2020;4(1):1.
- 16. Amalia AR, Erika E, Dewi AP. Efektivitas Kompres Hangat terhadap Intensitas Nyeri Punggung pada Ibu Hamil Trimester III. Holist Nurs Heal Sci. 2020;3(1):24–31.
- 17. Putriansyah E, Mudrikatin S, Sumini GT. Prima Wiyata Health Volume I Nomor 1 Januari 2020. J Prima Wiyata Heal. 2020;I:9–16.
- 18. Intarti W. Kontribusi Senam Ibu Hamil Trimester Iii Dalam Pengurangan Nyeri Pinggang Di Wilayah Ekskotatif Cilacap. 2019;17–27.
- 19. Amphalaza AAA. Pengaruh Senam Hamil Terhadap Penurunan Skala Nyeri Punggung Pada Ibu Hamil Primigravida Trimester Iii Di Semarang Medical Center (Smc) Telogorejo Semarang Skripsi. Unnes. 2019;1–49.
- 20. Dewi Ayu SA. Hubungan Antara Pengetahuan Dan Dukungan Suami Ibu Hamil Trimester Iii Dengan Persiapan Menghadapi Persalinan Pada Ibuprimigravida Di Puskesmas Kauman Kabupaten Tulung Agung. 2020;8(2):108–15.
- 21. Press AU. Buku Ajar Manajemen Pelayanan Kesehatan Google Buku. 2021.
- 22. Putriansyah E, Mudrikatin S, Sumini GT. Asuhan Kebidanan Pada By." M" Usia 1 Hari Dengan Bblr Serta Gangguan Pernapasan Di Ruang Nicu Rsud Sumbawa. Prima Wiyata Heal. 2020;1(1):8.
- 23. Purnamayanti NMD, Utarini GAE. Intensitas Nyeri Pinggang Dan Pinggul Pada Ibu Hamil Yang Melaksanakan Yoga Prenatal Di Kota Denpasar. J Midwifery Updat. 2020;2(2):69.
- 24. Juliarti W, (, 1,), Husanah E. Hubungan Senam Hamil Terhadap Nyeri Punggung Pada Trimester Iii Di Bpm Dince Safrina, Sst Pekanbaru Tahun 2017. J Midwiferi. 2018;7:35–9.
- 25. Sutrimah, Mifbakhudin M, Wahyuni D. Faktor-Faktor Yang Berhubungan Dengan Kejadian Preeklampsia Pada Ibu Hamil Di Rumah Sakit Roemani Muhammadiyah Semarang. J Kebidanan. 2015;4(1):1–10.
- 26. Shitah N, Purnama A. Penerapan Atraumatic Care dengan Medical Play terhadap Respon Kecemasan Anak Usia Prasekolah yang mengalami Hospitalisasi di Ruang Rawat Inap Anak. J Ilm Ilmu Keperawatan Indones [Internet]. 2018 Dec 31;08(02). Available from: https://doi.org/10.33221/jiiki.v8i04.156