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Effleurage Massage for Pain Relief in Pregnant Women

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ABSTRACT

Pregnancy is an event that begins with conception and ends with the onset of labor. Pregnancy is divided into three trimesters, the first trimester (0-12 weeks), the second trimester (13-27 weeks), and the third trimester (28-40 weeks). During the pregnancy process will cause various changes in all body systems, both physiological changes and psychological changes that can cause discomfort to pregnant women. Physiological changes that often occur in pregnant women such as dyspnea, insomnia, gingivitis, frequent urination, pressure and discomfort in the perineum, back pain, constipation, varicose veins, fatigue, Braxton hicks contractions, leg cramps, ankle edema. Not only physiologically, changes in pregnant women also occur psychologically such as changes in mood and increased anxiety. One of the physiological changes that pregnant women often complain about is back pain. The reported prevalence of back pain in pregnancy varies from 50% in the UK and Scandinavia to 70% in Australia. Back pain experienced by pregnant women will peak at week 24 to week 28, just before abdominal growth reaches its maximum point. Most back pain during pregnancy occurs due to changes in the spinal muscles, as much as 70%. Back pain in pregnant women can be treated both pharmacologically and non pharmacologically. One of the non-pharmacological therapies that can be given is Effleurage Massage, which provides a gentle, slow and uninterrupted massage on the back of pregnant women so that it can cause relaxation and reduce pain.

1. Introduction

Pregnancy is preceded by conception until gestational age reaches 38-42 weeks. Pregnancy is divided into three trimesters, namely the first trimester (0-12 weeks), the second trimester (13-27 weeks), and the third trimester (28-40 weeks). During the pregnancy process, pregnant women experience physiological, psychological and social changes. Physiological changes that occur not only in the reproductive organs but also in all body systems, namely the cardiovascular, respiratory, urinary, integumentary, musculoskeletal, neurological, digestive and endocrine systems. Physiological changes are needed to protect the normal function of the mother in providing for the needs for fetal growth and development. These changes cause specific symptoms according to the stage of pregnancy. Not only physiologically, changes in pregnant women also occur psychologically such as changes in mood and increased anxiety. One of the physiological changes that pregnant women often complain about is back pain. Back pain that is not treated promptly, can lead to long-term back pain, an increased tendency for post-partum back pain, and chronic back pain which will be more difficult to treat or cure. [1,2]

According to Ratih (2016), the results of research on pregnant women in various regions of Indonesia reached 60-80% of people who experience back pain in their pregnancy. The reported prevalence of back pain in pregnancy varies from 50% in the UK and Scandinavia to 70% in Australia. Back pain experienced by pregnant women will peak at week 24 to week 28, just before abdominal growth reaches its maximum point. Most back pain during pregnancy occurs due to changes in the spinal muscles, as much as 70%. Back pain in pregnant women can be treated both pharmacologically and nonpharmacological. One of the non-pharmacological therapies that can be given is effleurage massage, which provides a gentle, slow and uninterrupted massage on the back of pregnant women so that it can cause relaxation and reduce pain.

Physiological changes of pregnancy

Physiological changes occur due to the activity of pregnancy hormones and mechanical stress due to the enlargement of the uterus and other tissues. These changes occur in all body systems. After implantation, the fertilized ovum and chorionic villi produce HCG to maintain the corpus luteum to produce estrogen and progesterone. This occurs during the first 8 to 10 weeks of pregnancy, so the placenta takes over this function. Levels of estrogen and progesterone increase causing the pituitary gland to stop secreting Follicle Stimulating Hormone (FSH) and Luteinizing Hormone (LH). As a result, follicle maturation and ovum release do not occur so that the menstrual cycle stops but at least 20% of mothers experience small bleeding early in pregnancy without pain.[3,4]

Uterine growth in the first trimester due to stimulation of high levels of the hormones estrogen and progesterone leads to increased vascularity and dilation of blood vessels, hyperplasia, hypertrophy and development of decidua. The uterus also changes in weight, shape and position. The uterus which originally weighs 30 grams will become larger so that it becomes 1000 grams at the end of pregnancy. The uterine muscles undergo hyperplasia and hypertrophy becomes larger, soft, and can follow the enlargement of the uterus due to fetal growth. Rather muscles strengthen and become more elastic. At weeks 7 and 8, increased uterine and lymphatic blood flow results in pelvic edema and congestion. As a result, the uterine isthmus progressively softens, namely Hegar's sign, softening of the cervix known as Goodell's sign and uterine flexibility where the uterus and cervix join is called Mc Donal's sign. After the 8th week the corpus uteri and cervix soften and enlarge as a whole. As the uterus expands, the uterus eventually exits the pelvic cavity and can be palpated over the symphysis pubis between weeks 12 and 14 to predict an increase in size. This softening of the isthmus causes excessive uterine anteflexion during the first three months of pregnancy, as a result of which the fundus presses on the bladder causing the mother to experience frequent urination. Uterine contractions begin at the beginning of pregnancy for at least 12 weeks until the end of pregnancy. These contractions, known as Braxton Hicks, are usually painful. [5,6]

Pregnancy hormones cause vaginal distension by producing thick vaginal mucosa, loose connective tissue, smooth muscle hypertrophy and vaginal lengthening. Increased vascularization giving off a bluish purple color to the vaginal mucosa and cervix is called Chadwiks sign, can appear at the sixth week but is easily seen at the 8th week of pregnancy. Desquamation of glycogen-rich vaginal cells results from stimulation of estrogen. These cells form a thick, whitish vaginal discharge called leukorrhea. In the non-pregnant condition, vaginal pH is 3.8 - 4.2. During pregnancy, the pH of the vagina becomes more alkaline, making pregnant women more susceptible to vaginal infections, especially yeast infections. The response of the mother to feel

excessive itching, which makes her uncomfortable. Breasts undergo growth and development in preparation for breastfeeding during lactation. Breast development cannot be separated from the influence of hormones during pregnancy, namely estrogen, progestron, and somatotrofin.

Changes in the cardiovascular system, namely hypertrophy or mild dilation of the heart caused by an increase in blood volume and cardiac output. This results in increased work of the heart starting in the fourth week of pregnancy with a mean value of about 70-85 beats / minute. The contents of the cylinder increased from about 64 ml to 71 ml. Cardiac output gradually increases by about 40% by the end of the first trimester when blood flow has not increased significantly. Although cardiac output increases during pregnancy, blood pressure does not increase. This is due to a 50% decrease in peripheral resistance from before pregnancy can be seen from the value of constant systolic pressure and diastolic pressure decreased slightly.

The capacity of blood vessels and venules can increase because progesterone can relax muscles so that the artery walls relax and enlarge. This may also be related to increased prostaglandin production. In response to these cardiovascular changes, mothers look easily tired in doing activities, often rest, sleep and look pale.

Changes in ventilation and the anatomy of the respiratory system during pregnancy aim to provide for the oxygen needs of both the mother and the fetus. Maternal oxygen demand increases in response to an accelerated metabolic rate due to increased oxygen demand for uterine and breast tissue. The high level of CO2 transferred by the fetus can increase maternal respiratory ventilation to replace excess CO2, causing the mother's total ventilation capacity to increase by 40%. This can slightly increase the pH in the blood.
In addition to changes in the respiratory system to be able to meet O2 needs, there is also a pressure on the diaphragm due to the push of the enlarging uterus, as compensation, the mother will breathe more deeply (+ 20 to 25% than usual).

Changes in the structure of the kidneys are caused by the activity of the hormones estrogen and progesterone, the pressure caused by an enlarged uterus and an increase in blood volume. These changes affect the circulation of fluids, kidneys, urinary tract and bladder function. Kidney function changes due to pregnancy hormones, increased blood volume, maternal posture, physical activity and food intake.

The glomerular filtration rate (GFR) and renal plasma flow increase in early pregnancy. The kidneys accommodate increased metabolism and circulation of the mother's body and excrete fetal nutrients. From the 10th week of pregnancy, the renal pelvis and ureters dilate above the pelvic inlet. This dilation is more pronounced on the right side. The smooth muscle walls of the ureters undergo hyperplasia, hypertrophy and relaxation of muscle tone. The ureter is elongated, winding and forms a single or double indentation.

The bladder capacity increases by about 1500 ml and the uterus rises on the right side of the abdomen, driven by sigmoid enlargement. This causes pregnant women to feel an increase in the frequency of urination throughout the first trimester until the uterus rises out of the pelvis and releases pressure on the urinary bladder.

Under normal circumstances, 500 to 900 mEq of sodium is maintained throughout pregnancy to meet the needs of the fetus. The frequency of urination for non-pregnant women 4-5 times / day. During pregnancy, this frequency increases, but does not cause dehydration.
Because caregivers are enlarging the uterus, pregnant women often urinate or urinate. This pressure causes the bladder to feel full quickly. The occurrence of hemodilution causes water metabolism to run smoothly so that urine formation will increase

Common changes include increased skin

thickness and subdermal fat, hyperpigmentation, hair and nail growth, accelerated sweat and sebaceous gland activity, increased circulation and vasomotor activity. Hyperpigmentation is seen on the face and neck due to an ACTH-like polypeptide, increasing from the second month of pregnancy. There are changes in pigment deposits and hyperpigmentation due to the influence of the melanophore stimulating hormone (MSH) of the anterior pituitary lobe and the influence of the supraenal gland.

Gradual body changes and increased weight of pregnant women cause the mother's posture and gait to change significantly. The need for calcium and phosphorus increases during pregnancy to form the fetal skeleton. Back pain is often felt by mothers at 24 weeks to 28 weeks of gestation.

Liver function changes and nutrient absorption increases. The large intestine is shifted towards the upper and posterior lateral. Decreased peristalsis results in loss of bowel sounds, constipation and nausea and vomiting which can cause appetite to change. This symptom appears in about half the number of pregnancies and is a result of changes in the digestive tract and increased levels of HCG in the blood.[5]

Nausea and vomiting make it difficult for about 70% of pregnancies. In general, nausea and vomiting starts around 4-8 weeks and continues for about 14-16 weeks. The frequency of nausea and vomiting in the first trimester is not more than 10 times / day, because it is an indication of hyperemesis gravidarum. Although difficult, makes the mother weak and sometimes causes weight loss in early pregnancy, nausea and vomiting rarely cause imbalance.[6]

Back pain

Back pain (lumbar strain) is back pain that occurs spontaneously and has a high enough degree of pain that it can cause disruption in activity and posture. Back pain often appears during pregnancy is more common in the back area. According to Astuti (2010), back pain that occurs during pregnancy can be caused by enlargement of the uterus due to the growing fetus pressing on the spine and pelvis, and changing the mother's posture to the front (lordosis).

Effleurage massage

Effleurage massage is a massage technique in the form of gentle, slow, long or continuous strokes. This technique induces relaxation. Effleurage is done by using the palms of the hands so that the tips of the fingers are against the skin and pressing gently and lightly. The benefits of effleurage massage is increasing oxytocin which can cause comfort and satisfaction in pregnant woman. Massage can reduce stress hormones and increase the hormone oxytocin and can help reduce anxiety. This massage can also help reduce back pain in pregnant women. [7]

2. Conclusion

Pregnancy is a series of events that occur when the ovum is fertilized and the ovum finally develops until it becomes a fetus at term. During the pregnancy process will cause various changes in all body systems, both physiological changes and psychological changes. One of them is back pain, back pain can be treated both pharmacologically and non pharmacologically. The therapy that can be given to treat back pain in pregnant women is efflurage massage, which is a massage technique in the form of gentle, slow, and long strokes or not intermittent. This technique induces relaxation. Effleurage is done by using the palms of the hands so that the tips of the fingers are against the skin and pressing gently and lightly.

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