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Original Article

Inhibiting Back Pain and Enhancing Comfort During Pregnancy with The Power of Endorphin Massage

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ABSTRACT

Back pain and anxiety during pregnancy can cause discomfort and interfere with activities in meeting daily needs. Endorphin massage is known to reduce back pain and make a person calmer so that it can reduce anxiety, but research on the effect of endorphin massage in dealing with back pain and anxiety is still minimally reviewed. The study aims to should be to find out the effect of endorphin massage for back pain and anxiety in third trimester pregnant women. The one-group pretest-posttest research method used a quasi-experimental design involving 42 respondents from 2 selected villages using a purposive sampling technique. The endorphin massage intervention was carried out 18 times with 2 observations, during the pretest and after the end of the intervention 18 times. After the analysis using the t-test, it is known that endorphin massage affects reducing back pain and anxiety in pregnant women. The analysis's findings demonstrated that there was an intervention effect on anxiety and back pain, with a p-value of 0.000, compared to a p-value of 0,042 for the control group. It was concluded that there is influence of endorphins to inhibiting back pain, enhancing comfort during pregnancy and it is very important to educate pregnant women about physical and psychological discomfort so that they can be anticipated in carrying out their daily activities. It is also recommended to consider the presence of the husband when implementing this activity.

Keywords: Anxiety, Endorphin massage, Low back pain, Pregnancy.

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INTRODUCTION

A woman's pregnancy is a complicated time in her life. It is linked to major physical and psychological changes that help a woman's body's many systems balance their operations in relation to the needs of the fetus. Pregnant women are more susceptible to physical and emotional issues because of these changes, even though they are important for the fetus' life and the mother's body to adjust to new situations. Pregnancy discomfort is brought on by these changes at various times, including morning sickness, difficulties moving, poor sleep, lower back pain, and changes in moods including impatience, sorrow, and anxiety [1–4]. The prevalence of physical discomfort that pregnant women complain about the most is back pain and anxiety, this occurs in the third trimester [5],

Weight gain during pregnancy of 10-15 kg causes disturbances in the bones that function to support the body, causing low back pain [6]. This is also exacerbated by the increasing weight of the baby which also contributes to putting pressure on the blood vessels, pelvic nerves and the pregnant woman's back, causing

back pain. Hormonal changes in pregnancy cause the process of releasing beta-endorphins in the body, causing various physical discomforts that are felt during pregnancy [7].

Not only physical problems experienced by pregnant women but also psychological problems arise in the form of increased anxiety[8]. The pituitary gland was found to release peptide hormones called endorphins into the circulatory system in addition to acting as neurotransmitters in the central nervous system. Clinical research has shown that endorphins can contribute to mental health issues during pregnancy, such as autism, depression, and mood disorders [9,10]. Endorphins are produced by the trophoblastic tissue of the placenta and then enter the mother's blood circulation system, starting in the third month of pregnancy. At 25-28 weeks of gestation, the levels of endorphins and anxiety hormones increase and will continue to increase as the gestation period increases [11].

The impact of back pain complaints and increased anxiety in pregnant women will affect fetal development. Endorphin massage is frequently utilized as an additional non-pharmacological treatment to improve pregnancy-related anxiety and back pain [12,13]. Endorphin massage is a light touching and massaging technique that can cause beta-endorphin release and stop pain impulses, this will have the effect of normalizing heart rate and blood pressure, as well as increasing relaxed conditions in the body [14] [1513]. Endorphins are believed to boost the immune system, reduce pain, and reduce stress, and anxiety [16], [17].

Many studies of Endorphin Massage have not been explored, so further studies are needed to support the existing findings. According to the findings of a preliminary study at a Puskesmas, 75% of pregnant women in their third trimester reported back pain and an increase in tension, so management is needed so that the condition does not become a critical pathology, one of which is by giving endorphins massage to third-trimester pregnant women. Study aims to explore the benefits of endorphin massage for back pain and maternal anxiety during the third trimester of pregnancy.

METHOD

One-Group Pretest-Posttest Design is the sort of quasi-experimental design used in this investigation. The researcher described the proposed intervention to the responders, namely endorphins massage to reduce discomfort in pregnant women, especially back pain and increased anxiety. Respondents were asked to do a pretest to assess the worsening of lower back pain and increased anxiety. After the intervention, which took place over the course of 18 meetings, a post-test was conducted. Before and after the intervention, research participants were observed twice. After that, the test results from the treatment group were compared to the test results obtained before and after the therapy.

Samples were collected based on selected criteria according to research needs, 42 responses, all of them were pregnant women in the third trimester were located in two villages under the working area of the public health centre.

Obtained data that has a normal distribution after the Shapiro-Wilk test The effectiveness of endorphin massage is evaluated by contrasting the mean test results obtained prior to treatment (pre-test) and following therapy (post-test). A significance test employing the t-test is used to determine how much the rise in significance has increased. The One Group Pre-test and Post-test Design is the t-test formula utilized with the study design. This research has passed an ethical review from the Poltekkes Palembang research ethics committee number 0538A/KEPK/Adm2/III/2022.

RESULTS

This research was conducted by waiting for patients in the third stage of pregnancy who will give birth at the village midwife. The instrument used to assess complaints of pregnancy discomfort focusing on complaints of back pain and a variation that measures pregnancy anxiety has been assessed for validity and reliability with 20 participants. Then the respondents were divided into two groups, the intervention and control groups. Both groups were given questionnaires before and after the procedure to measure complaints of back pain and anxiety in pregnancy. The analysis's findings demonstrated that there was an intervention effect on anxiety and back pain, with a p-value of 0.000, compared to a p-value of 0,042 for the control group.

Table 1. Characteristics of Respondents

Characteristics	Frequency	Percentage
Age		
Not at risk (20-35 years)	24	57.1
At risk (< 20 & >35 years)	18	42.9
Parity		
Primigaravids	18	42.9
Multigravida	24	57.1
Education		
SD-SMP-SMA	36	85.7
Academic/PT	6	14.3
Family Support		
Support	39	92.9
No support	3	7.1
Residence		
Urban	41	97.6
Rural	1	2.4

Table 2. Distribution of Back Pain Complaints Before and After Endorphin Massage (n = 42).

Respondent	Before		After	
	f	%	f	%
Heavy	6	28.6	1	4.8
Currently	10	47.6	7	28.6
Light	4	19.0	11	52.4
No complaints	1	4.8	3	14.3
Total	21	100	21	100

Table 3. Distribution of Pregnancy Anxiety Before and After Endorphin Massage (n = 42).

Respondent	Before		After	
	f	%	f	%
Heavy	6	28.6	1	4.8
Currently	10	47.6	7	28.6
Light	4	19.0	11	52.4
No anxiety	1	4.8	3	14.3
Total	21	100	21	100

Table 4. Analysis of the Effect of Endorphin Massage on Back Pain and Pregnancy Anxiety in the Intervention and Control Groups (n = 42)

Variables	Group	Mean	z	*p-value*
Endorphin massage for back pain	group Intervention			
	Pre-test	2.00	2.29288	0.000
	Post-Test	1.24		
	Difference	-0.76		
	group Control			
	Pre-test	1.95	0.58531	0.042
	Post-Test	2.33		
	Difference	0.38		

DISCUSSION

Weight gain during pregnancy causes the bones that function to support the body to be disrupted. The mother's posture will also change to compensate for the increase in gestational age. This condition if given immediate action can cause chronic back pain and problems in resting and sleeping[18,19]. Thus causing discomfort during pregnancy.

Back pain is the most frequent complaint of discomfort during pregnancy. If it is not treated right away, it can result in long-term back pain and increase the likelihood of postpartum back pain and chronic back pain, both of which will be more challenging to treat or cure. From the beginning of pregnancy until 24 weeks of gestation, pregnancy discomfort is present. It becomes more frequent and severe during the third trimester.

Adaptation to the conditions that must be experienced is important for pregnant women. In addition to adaptation, actions are needed that can relieve discomfort during pregnancy. Many other factors in a pregnant woman's body can respond to brain chemicals known as neurotransmitters that cause pain. Endorphin somatic cell receptors can bind to neurotransmitters thereby eliminating pain problems [20].

For pregnant women, endorphin massage is a gentle touch (massage therapy) that is necessary near the end of pregnancy or after childbirth. This is due to the fact that a little touch or massage will induce the body to release endorphins, which are substances that can reduce pain and increase comfort. The majority of pregnant women who received endorphine massage therapy saw a reduction in pain. Mothers who receive endorphin massage therapy report feeling at ease and relaxed.

Administering drugs to pregnant women is not recommended, because certain drugs can have a negative impact, including affecting the growth and development of the fetus and increasing the risk of birth defects. One alternative to avoid the problem of drug effects in pregnant women is complementary

therapy.

Currently, complementary therapy is widely used in various fields of health as an alternative therapy [21]. Complementary therapy has been proven to be able to support the process of pregnancy and childbirth so that it is comfortable and enjoyable [22]. One of the most widely used complementary therapies to treat discomfort during pregnancy is endomorphin massage. A study found that massage given to pregnant women can increase feelings of relaxation and comfort [14,23]. The body can be stimulated to release endorphins, which are natural painkillers, by the use of endorphin massage [8,24].

Anxiety is the most common mental health problem experienced, and most studies have been conducted in the third trimester of pregnancy [25]. Understanding comorbid anxiety in pregnancy is a growing area of research [26]. A meta-analysis of anxiety during pregnancy reveals a moderate prevalence; 3.9% of women reported feeling depression during pregnancy, and 15.8% of women self-reported having symptoms of anxiety throughout pregnancy and 17.1% in the postpartum period (1–24 weeks after delivery) [27]. The prevalence of clinical diagnoses for anxiety is 9.3% antenatally and 4.2% postpartum. The problem that arises is when this anxiety occurs continuously and there is no effort to reduce it, causing increasingly severe symptoms, namely depression and trauma [28] and this requires greater treatment [29]. In addition, The detrimental impacts of sadness and anxiety will impact partner intimacy, maternal health, and mother-infant bonding [27].

The negative impact of anxiety during pregnancy is enormous and numerous, not only on the health of the mother, but also on the unborn child, family relationships and the baby's growth and development process when it is born. It is important to provide therapy, one of the many chosen therapies is Endorphin Massage. Endorphins are hormones that cause anxiety in pregnant women [11]. With this therapy, it is thought that the immune system will be strengthened, pain will be lessened, anxiety will decrease, and most importantly, the aging process will be slowed [17]. Based on the results of the study, it was known the aims of that endorphins massage which has the power to reduce lower back pain and increase comfort during pregnancy.

CONCLUSION

This shows that the intervention given in the form of regnant women who receive an endorphin massage report less anxiety and back pain, and there are differences between the intervention and control groups' pain and anxiety scores before and after the action is administered. Thus, it can be concluded that Endorphine Massage is very effective and efficient. However, it is no less important to achieve the success of all therapies influenced by many factors, one of the most important factors is family support, especially the closest person, namely the husband. The husband can consistently provide therapy and arrange a therapy schedule. There is no conflict of interest in this study.

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CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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