

Spiritual Intervention and Thermal Stimulation in Pregnant Women with Back Pain

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ABSTRACT

Back pain is one complaint that is often experienced by pregnant women. This complaint increases with increasing maternal age. The purpose of this study is to determine the effectiveness of spiritual intervention and thermal stimulation of back pain in pregnant women. The method uses a quantitative with quasi-experiment pre-post test design with control on 40 people; subjects were taken by purposive sampling. Interventions in group 1 listened to Qur'anic murottal Ar Rahman surah and were given warm compresses, while in group 2, Qur'anic murottal was the subject's favourite surah and were given warm compresses for 20 minutes. The data was analysed using the Wilcoxon and Man Whitney tests. The Wilcoxon test in group 1 showed that there was an effect of listening to murottal Alqur'an Ar-Rahman surah and warm compresses to decrease back pain, with p value 0.000. In group 2, there was an influence of listening to murottal Alqur'an favourite surah and warm compresses to decrease back pain, with p value 0.000. The Mann Whitney test from both groups showed no significant difference in decreasing back pain in groups 1 and 2 with p value 1.000.

Conclusion: There is a significant reduction in pain before and after intervention.

Keywords: *Spiritual Intervention, Thermal Stimulation, Pregnant Women, Back Pain.*

Introduction

Pregnancy is a physiological process that couples always expect in a family. During the pregnancy process the mother will experience changes in her body which often cause complaints. Complaints are common and are felt by almost every pregnant woman, including the back.¹

Complaints of back pain in pregnant women occur because it is influenced by several factors, including physical changes that occur during pregnancy. During pregnancy, women generally experience changes in body size and weight gain. The growing of the foetus in the uterus causes the abdominal wall to become stretched. Posture resulting from the stretching of the abdominal muscles can cause pregnant women to experience lordosis.²

Lordosis posture in pregnant women affects the shoulder, causing it to be attracted to the back due to prominent abdominal enlargement and for maintaining body balance, curvature of the vertebrae inward also becomes excessive. Sacroiliac joint relaxation that accompanies changes in body shape stimulates an increase in back pain. Complaints of back pain like this usually begin to be felt when entering the second trimester, and increases when gestational age increases. Pregnant women with complaints of back pain have a lower quality of life and more often complain of pain.³

Complaints felt by pregnant women who experience back pain have an impact on daily activities, so that the mother experiences a disruption in carrying out activities such as moving or changing positions, difficulty walking, sleep disturbances and emotional disturbances.⁴ Pregnant women with back pain must be careful in carrying out activities. It is very important to be given an understanding of ergonomic positions, and avoid maladaptive movements, improper pelvic movements and unbalanced weight.⁵ Treatment that is routinely carried out in the antenatal period can reduce pain in malposition due to back pain experienced by pregnant women.⁶

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Complaints felt by pregnant women should not be ignored and must be treated so that the mother feels comfortable during her pregnancy. Back pain in pregnant women can be given pharmacologically or non-pharmacologically. Efforts to treat pharmacology can be done by administering analgesic drugs, while non-pharmacological management can be done by providing acupuncture, relaxation, massage, distraction and exercise therapy.⁷ Efforts to treat pain with pharmacology must be careful and it is necessary to monitor drug side effects that may occur, while handling pain with non-pharmacological is safer and does not cause side effects.⁸

Many studies suggest that pregnant women often complain of back pain with mother experiencing disruption in carrying out daily activities. Research conducted on women’s experiences of low back pain during pregnancy finds that multipara pregnant women with back pain have a significant sleep disorder compared to primiparous mothers.⁹ From all pregnant women who experience back pain, the data obtained shows that 57.7% experience disruption of activity and 77.5% of mothers feel bored. Pregnancies in older women with back pain complain of pain in the legs, neurological disorders and disorders of elimination in both urination and defecation.¹

Management of warm compresses is part of non-pharmacological therapy that can be given in obstetric cases to women in the antenatal, intranatal and postnatal areas. In giving warm compresses the study subjects showed a significant reduction in pain before and after the intervention.¹⁰ Giving warm compresses in addition

to reducing the level of pain can also increase blood flow to the local tissue.¹¹ In addition to warm compresses, music therapy can also be done to reduce the level of pain and anxiety. Research conducted on the effects of music on labour pain relief, anxiety level and postpartum analgesic requirement, states that giving stimulation of auditory music therapy can reduce pain.¹²

Research on efforts to overcome complaints of pain with the provision of warm compresses and music therapy is most often performed on mothers who face labour, while for mothers who experience back pain has not been done much. The average researcher gives treatment with warm compresses or just music therapy which then measures the pain level to be able to assess the level of reduction in pain that occurs. In this study a combination of warm compressing and murottal Alquran was part of auditory stimulation for distraction therapy.

Method

This research is a quantitative study that uses quasi-experimental design studies with two groups pre-test – post-test design with control in 40 research subjects taken through purposive sampling technique in Semarang City, Central Java Province, Indonesia. The treatment given to the research subjects was spiritual intervention and thermal stimulation. Subjects in group I were given interventions to listen to Qur’anic murottal Ar Rahman surah and warm compresses, while the research subjects in group II were given Qur’anic murottal interventions of favourite subject’s surah and warm compresses with a duration of 20 minutes.

Results

Table 1: Results of frequency distribution of low back pain before and after intervention in group I and group II pregnant women in Semarang City in 2018 (n = 40)

Pain Level	Before				After			
	Group I		Group II		Group I		Group II	
	f	%	f	%	f	%	f	%
Mild	0	0	0	0	19	95.0	19	95.0
Moderate	11	55.0	10	50.0	1	5.0	1	5.0
Severe Controlled	9	45.0	10	50.0	0	0	0	0
Severe not Controlled	0	0	0	0	0	0	0	0
Total	20	100.0	20	100.0	20	100.0	20	100.0

Table 1. shows that before the intervention most of the research subjects in group I had moderate pain of (55%), while in group II the subjects experienced pain at the moderate and severe levels controlled at the same amount (50%). After the intervention, the research subjects in group I and group II showed a decrease in the degree of pain. In both groups the majority of the study subjects were in mild pain, as much as 95%.

Table 2: Differences in the level of low back pain before and after intervention in group I and group II pregnant women in Semarang City in 2018 (n = 20)

	Group I			Group II		
	N	Mean Rank	Sum of Ranks	N	Mean Rank	Sum of Ranks
Negative Ranks	20 ^a	10.50	210.00	19 ^a	10.00	190.00
Positive Ranks	0 ^b	.00	.00	0 ^b	.00	.00
Ties	0 ^c			1 ^c		
Z			-4.053 ^b			-3.938 ^b
Asymp.Sig.(2-tailed)			.000			.000
Total	20			20		

Table 2 shows that in group I the results of the p value was 0,000 which means that there is a significant difference in the level of back pain in group I before and after the intervention. So it can be concluded that there is an effect of murottal Qur'anic given from Surat Ar-Rahman and warm compresses to reduce back pain in pregnant women.

The table also shows that in group II the processing results obtained a p value of 0,000 so that Ha was accepted, there were differences in back pain before and after intervention in the study group II subjects and it could be concluded that there was an effect of preferred use of murottal surrah listening and giving warm compresses to reduce back pain.

Table 3: Effectiveness of spiritual interventions and thermal stimulation on decreasing back pain in pregnant women in Semarang City in 2018 (n = 40)

Group	N	Mean Rank	Sum of Ranks
Group I	20	20.50	410.00
Group 2	20	20.50	410.00
<i>p</i>			1.000
Total	40		

Table 3 shows that the results of processing data are p value 1,000, which means Ha is rejected, meaning that there is no significant difference in decreasing back pain in giving Qur'anic murottal Ar-Rahman surah as spiritual intervention and thermal stimulation by giving Qur'anic murottal to the favourite subject's surah as

spiritual interventions and thermal stimulation. These results have the meaning of Qur'anic murottal spiritual intervention listening to Ar- Rahman surah and thermal stimulation by giving spiritual intervention listening to the subject's favourite surah and thermal stimulation with warm compresses having the same impact on decreasing back pain in pregnant women.

Discussion

Research shows that murottal spiritual interventions listen to Qur'anic murottal Ar- Rahman surah and thermal stimulation by giving spiritual interventions to listen to the subject's favourite surah and thermal stimulation with warm compresses have the same impact on decreasing back pain in pregnant women. The intervention given to both groups equally significantly affected the reduction of pain in pregnant women.

Spiritual intervention in the form of listening to Qur'anic murottal is part of distraction therapy. Distraction therapy is a form of therapy that is done to divert attention to other things that can make patients forget about the pain that is felt.¹³ Auditory stimulation can affect emotions, activities of the brain and also the nervous system and cardiac output.¹⁴ The auditory interventions provided by one of them can be Qur'anic murottal listening. Qur'anic murottal interventions are received by the auditory system, are transmitted to the brain which in turn affects the limbic system. Hearing stimulation is accepted by the brain in the midbrain region which stimulates the midbrain to secrete Gama Amino Butyric Acid (GABA), enkepalin and beta

endorphin, which act as electric conductive inhibitors, have an analgesic effect and function as a softener.²¹ Increases in hormone endorphins are able to reduce stress levels and control the pain felt by individuals.¹⁵ The use of the Qur'anic murottal stimulation is a simple action to be carried out and optimizes the religious side of the research subject. Qur'anic murottal administration when compared with other auditory therapies such as music has more influence on pain reduction.¹⁶ Patients who experience long-term pain conditions need a spiritual touch to increase their enthusiasm and strength in dealing with their pain.

Providing warm compresses of thermal stimulation has the benefit of increasing the temperature of local skin, promoting blood circulation, stimulating blood vessels, reducing muscle spasm, relieving pain sensations, and providing calm and comfort.¹⁷ Warm water is a means of slowly pumping the heat to the body, which has a positive effect. Warm water can also affect the outer body, inner body and blood circulation. Warm temperatures can make a positive value for the body's energy because it has a good influence on cell components which consist of various electrons, ions and others.¹⁸ Warm water with a temperature of 35-40 °C has a physiological impact on the body which can prevent muscle spasm and smooth blood flow so as to reduce pain. The water temperature at the time of giving compresses for thermal stimulation must be maintained. Giving compresses can be carried out in between 15 and 20 minutes.¹⁹

The physiological effects of heat therapy can relieve pain, increase blood flow and metabolism and increase the elasticity of connective tissue. Thermal therapy in the form of a warm compress is passed on by the TRPV1 TRP nerve transduction receptor (TRPV1), which is a heat receptor. This TRPV1 receptor is in the primary afferent neurons, spinal cord, and throughout the brain. Activation of TRPV1 receptors in the brain can reduce antinociceptive effects. Heat stimulation in tissues stimulates vasodilation and blood flow to the tissues so that the supply of nutrients and oxygen to the location of pain becomes smooth. This condition increases peripheral metabolism, provides warmth, and makes the muscles of the body become more relaxed and reduce pain.²²

Warm compress therapy is one of the non-pharmacological methods for relieving pain that can be done easily, with various variations of giving and using available equipment at any time without the need for complicated skills. But if done correctly, it will have a significant impact on reducing pain.²⁰

Conclusions

The study concluded that spiritual intervention and thermal stimulation were effective for reducing back pain in pregnant women in Semarang City. The provision of spiritual interventions by listening murottal and thermal stimulation by providing warm compresses can make pregnant women experience relaxation of their back pain. The two interventions support and enhance the mother's comfort so that back pain is significantly reduced.

Ethical Clearance: The ethical approval for this study was granted by the Ethics Committee of the Faculty of Nursing at the Sultan Agung Islamic University in 2018

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