ORIGINAL ARTICLE

Differences in Pain Intensity Changes in Postpartum Nursing Care 2 Hours Post-Partum Between Mother Nifas Using Effleurage Massage and Relaxation Technique Study in Independent Midwife Practice Work Area in East Java

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ABSTRACT

Background: Uterine involution in the puerperium causes pain that interferes with maternal comfort. In East Java, non-pharmacological therapy management has been carried out to reduce pain with effleurage massage and relaxation techniques. This technique helps provide a sense of comfort so that the puerperium goes well.
Aim: This study was to determine the difference in changes in pain intensity in maternal care for 2 hours post-partum between postpartum mothers who use effleurage massage and relaxation techniques
Methods: Quasy experimental research design with non-equivalent control group design. The population is maternity mothers of 36 at east java region. Data analysis used the Mann Whitney average comparison test with the SPSS and the basis for drawing conclusions if the Asymp. Sig (two-tailed) value was less than (0.05).
Result: The analysis concluded there was a significant effect of effluerage massage treatment on the reduction in pain level 2 hours post-partum. Where the average before treatment pain level felt at 6.5 then after the treatment effleurage massage to 2.5. Furthermore. Where the average before treatment pain level felt at 7.0 then after the treatment of relaxation techniques to 4.2. Where the average value of the effect of effleurage massages can reduce the level of pain by 4.05 units, while relaxation techniques by 2.76 units.
Conclusion: Pain management in the puerperium needs to be improved through non-pharmacological efforts.
Keyword: Childbirth, Pain, Effleurage Massage, Relaxation Technique

INTRODUCTION

The recovery period of nine months of pregnancy and the birth process is called the puerperium (post-partum). Physiological and psychological changes experienced by post-partum mothers, one of which is a contraction of the uterus.

The intensity of uterine contractions increases significantly after childbirth might cause by immediate response to reduce the amount of intra-uterine volume called uterine involution. These uterine contractions occur physiologically and cause pain that can interfere with maternal comfort in the post-partum period. Caused by uterine contractions requires a variety of treatments to minimize the pain felt by the mother so that the comfort of the mother can return.

The role of a midwife in these conditions is to help relieve post-partum maternal pain by providing interventions to relieve pain. Pain management strategy is an action to reduce pain with pharmacological and non-pharmacological therapy (Andarmoyo, 2013). Non-pharmacological therapies giving massage therapy to mothers called effleurage massage techniques and also by using relaxation techniques that can be done by mothers themselves with midwives as facilitators.

Effleurage is a form of massage using palms that exert gentle pressure on the surface of the body in a circular direction repeatedly. This technique aims to improve blood circulation, put pressure on, and warm the abdominal muscles and increase physical and mental relaxation. Kuswandi (2007) in Andriana (2007) stated that effleurage massage by applying pressure on soft tissue that causes movement or changes in joint position to relieve pain, produce relaxation, and improve circulation. In addition to therapy, using effleurage massage also performed relaxation techniques based on thoughts and feelings. (Mc Cavey, 1998) in (Batbual, 2010) mentions the relaxation of deep breathing is a form of care taught to clients by breathing deeply, breathing softly (holding inspiration to the maximum) then exhaling slowly that is beneficial to reduce tension and reduce the pain intensity.

Relaxation can be done by briefly forgetting anxiety, where anxiety in the post-partum mother 2 hours post-partum will experience when the mother feels pain in the abdomen due to uterine involution. The benefits of relaxation techniques to reduce post-partum pain by resting the mind with channeling excess energy or tension (psychic). Through other activities such as doing IMD (Early Breastfeeding Initiation).

METHOD

The design of this study used a pre-experimental type design Intact-Group Comparison, research variables by dividing in two groups, namely the experimental group and the control group. Design it is one of the research designs included in the type 55 pre-experimental research with observations conducted as many as 2 (two) times that is before the experiment called pre-test and after the experiment called the post test on the research subject.

The population in this study were 36 maternity mothers in the midwives at the East Java Health Center.

The sampling technique in this study is non-probability sampling type consecutive sampling by conducting research with respondents in accordance with predetermined criteria with time constraints

The samples in this study were 36 people, divided into 19 people who have been effleurage massage treatment methods. These studies measured by the level of pain before and after an effleurage massage treatment, while 17 other people with the method of deep breathing relaxation, which then also measured the level of pain before and after the treatment of deep breathing relaxation techniques. The independent variables in this study were the pre-post effleurage massage method and the pre-post deep breathing relaxation technique, while the dependent variable was the intensity of the pre-post treatment pain. The instruments used in this study included an observation sheet for pain intensity with a pain scale of 0 to 10 (Potter and Perry, 2006).

The data obtained were then processed in tabulation and analyzed using the Mann Whitney U-Test statistical test with a significance level α ≤ 0.05. The Mann Whitney U-Test test aims to test the average of two samples that cannot be the same size, also by the data that is in the order (ordinal) and frequency categories (nominal), where the research data is ordinal and nominal scale. The testing steps are as follows.

1. Determine the hypothesis formulation: H0: two samples have the same average H1: two samples have different averages
2. Determine the level of significance (α), which is 5%.
3. Determine the H0 testing criteria accepted if the Asymp.Sig. (Two-tail) Value of the Mann Whitney test statistic> 5%. H0 rejected if the Asymp.Sig. (Two-tail) The value of the Mann Whitney test statistic is ≤ 5%.
4. Conclude: If H0 accepted, then it is concluded that the two samples have the same average. If H0 rejected, it concluded that the two samples have different averages.

RESULT

The following are descriptive characteristics of respondents based on age, childbirth, employment, education, getting information, pre-post pain level, effleurage massage, pre-post pain level, treating relaxation techniques — research locations in PBM Jelakombo Health Center in Jombang RegencY, East Java. while the remaining 26.3% were primipara. Furthermore, in the relaxation technique group the majority of childbirth characteristics were multipara by 8.8% and the remaining primipara by 41.2%.

The characteristics of childbirth among the majority of multiparous Effluerage massage respondents were 73.7%

The occupational characteristics of respondents in the Effluerage massage group were mostly as factory workers as much as 47.3% and factory workers with a percentage of 42.1%. The rest as teachers was 10.6%, whereas the relaxation technique group was as factory workers 41.1% and factory workers as 35.2% and the rest a teachers as 23.7%.

The educational characteristics of respondents in the Effluerage massage group were in the majority of high schools as many as 89.4%, and the remaining 10.6% had

bachelor. Furthermore, the relaxation techniques group, the majority, had a high school education of 76.4%, and the remaining 23.6% had bachelor.

Characteristics of ever or never received information; it mentions that the majority of Effleurage massage groups had knowledge as much as 73.6%, and the remaining 26.4% did not get information. Furthermore, the relaxation technique group conclude that the percentage of people who have never and never received information is relatively not much different that is they received 52,9% and the remaining 47.1% never got information

The results of measurements of the level of pain 2 hours Post-Partum, carried out before and after the treatment Effleurage massage with the measurement result delivered (Fig.1).

Based on the measurement of the level of pain 2 hours postpartum before and after the effleurage massage treatment, it mentioned that the average pain level before treatment is 6.5. After surgery, the average pain level is 2.5. So, the average reduction of pain after an effleurage massage is four units. Furthermore, to find out effect of effleurage massage on pain levels in 2 hours during postpartum, this study were used a comparison test of the average pain level before and after effleurage massage. Stages of testing as follows: 1. Determine the hypothesis formulation: H0: Before and after the effleurage, massage treatment has the same average H1: Before and after the effleurage massage treatment has a different average 2. Determine the level of significance (α), which is 5%. Determine the test criteria, based on the results of the Mann Whitney test analysis, as follows.

Based on the results of the Asymp.Sig. (2-tailed) value of 0,000 which is less than α 5%, then H0 is rejected or H1 is accepted.The conclusion of before and after the effleurage massage treatment has significantly different based on the average value of the pain level. There is a reduction after effleurage massage. So it was concluded. Further there was a significant effect of effleurage massage treatment on the decrease in pain level 2 hours postpartum.

Figure 2. Pain levels before and after treatment Relaxation techniquesBased on the measurement of the level of pain 2 hours postpartum before and after treatment with relaxation techniques, it states that the average level of pain before treatment is 7.0. Then after treatment, the average pain level is 4.2. So that the average reduction in pain level after the relaxation technique is three units. Furthermore, to find out the effect of relaxation techniques on pain levels 2 hours postpartum, a comparison test of the average value of pain levels before and after treatment with relaxation techniques carried out. Stages of testing as follows: 1. Determine the hypothesis formulation: H0: Before and after the treatment of relaxation techniques have the same average H1: Before and after the treatment of relaxation techniques have a different average 2. Determine the level of significance (α) of 5% 3. Determine the test criteria, based on the results of the Mann Whitney test analysis, as follows.

Based on the results of Asymp Sig value (2-tailed) in table 2 above, amounting to 0,000, which is less than α 5%, then H0 is rejected, or H1 is accepted. 1. Conclude The conclusion that the sample before and after the treatment

of relaxation techniques has a significantly different average, where based on the average value of the pain level. There is a reduction after the relaxation technique used. So that further concluded there is a significant effect of the treatment of relaxation techniques on the reduction of pain levels 2 hours postpartum.

Table 1: Respondent characteristic

Variable age (years)	Effleurage Massage	Relaxation Technique
18-35	13 (68.4%)	6 (35.3%)
>35	6 (31.6%)	11 (64.7%)
Amount	19 (100%)	17 (100%)
Childbirth	**Effleurage Massage**	**Relaxation Technique**
Primipara	5 (26.3%)	7 (41.2%)
Multipara	14 (73.7%)	10 (58.8%)
Amount	19 (100%)	17 (100%)
Profession	**Effleurage Massage**	**Relaxation Technique**
Housewife	8(42.1%)	7 (41.1%)
Factory workers	9 (47.3%)	6 (35.2%)
Teacher	2 (10.6%)	4 (23.7%)
Amount	19 (100%)	17 (100%)
Education	**Effleurage Massage**	**Relaxation Technique**
High school	17 (89.4%)	13 (76.4%)
Bachelor	2 (10.6%)	4 (23.6%)
Amount	19 (100%)	17 (100%)
Got information	**Effleurage Massage**	**Relaxation Technique**
Ever	14 (73.6%)	9 (52.9%)
Never	5 (26.4%)	8 (47.1%)
Amount	19 (100%)	17 (100%)

Tabel 2. Test Statistics Mann Whitney: Pain level with effluerage massage

	Pain level with effluerage massage
Mann-Whitney U	17.000
Wilcoxon W	207.000
Z	-4.837
Asymp. Sig. (2-tailed)	.000
Exact Sig. [2*(1-tailed Sig.]	.000[a]

Table 3. Mann Whitney Statistics Test: Pain levels with relaxation technique

	Pain level with Relaxation Techniques
Mann-Whitney U	5.000
Wilcoxon W	158.000
Z	-4.882
Asymp. Sig. (2-tailed)	.000
Exact Sig. [2*(1-tailed Sig.)]	.000[a]

Table 4. Mann Whitney Statistics Test: Effect of effluerage massage treatment and relaxation techniques on pain levels 2 hours post-partum

	Different effects of Effleurage massage treatments with Relaxation Techniques
Mann-Whitney U	74.000
Wilcoxon W	227.000
Z	-2.854
Asymp. Sig. (2-tailed)	.004
Exact Sig. [2*(1-tailed Sig.)]	.005[a]

The Difference of Relaxation Technique and Effelurage Massage on Post-Partum 2-Hour Postpartum Pain: Measurement differences a result of relaxation effect technique treatment with effleurage massage was done by measuring the difference in value or the difference in the level of pain before and after for each treatment. The difference in the level of pain is the value of the effect of the treatment of relaxation techniques and effleurage massage. The following graph illustrates the effect value of the two treatments.

Based on Figure 8, it states that the effect of effleurage massage treatment causes a reduction in the pain level of 2 hours postpartum higher than the treatment of relaxation techniques. The average effleurage massage reduces the pain level by 4.05, while the relaxation technique on the average reduces the pain level by 2.76. Furthermore, to ensure a comparative test of the effect of the two treatments on the level of pain 2 hours postpartum. The comparison test used is the Mann Whitney Test, with the following testing stages. 1. Determine the hypothesis: H0: The value of the effect between the treatment of effleurage massage with relaxation techniques is the same for the level of pain 2 hours postpartum. H1: The value of the effect between the treatment of effleurage massage with the relaxation technique is different for the level of pain 2 hours postpartum 2. Determine the level of significance (α), which is 5%. 3. Determine the test criteria, based on the results of the Mann Whitney test analysis, as follows.

The results of the Asymp. Sig value (2-tailed) in table 3 above, amounting to 0.004, which is less than α 5%, then H0 is rejected, or H1 is accepted. The conclusion of the effect between effleurage massage treatment with relaxation techniques is different on the level of pain 2 hours postpartum, it can be the typical effect that effleurage massage treatment has the result of a more significant impact on reducing the level of pain, compared to the treatment of relaxation techniques.

Based on the table above, it states that the majority of effleurage mass groups are aged 18-35 years 68.4%, and the rest are> 35 years old as much as 31.6%. Furthermore, the majority of relaxation techniques groups aged> 35 years 64.7% and the remaining 18-35 years old as much as 35.3%

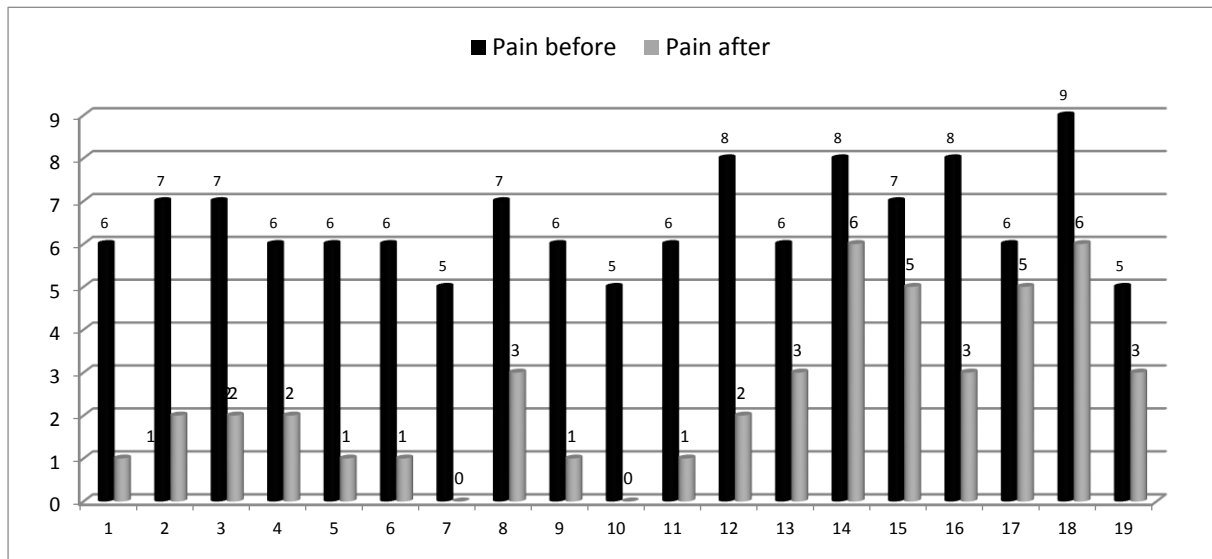Figure 1: Pain levels before and after the effleurage massage treatment

Figure 2: The Effect of Relaxation Techniques on Post-Partum Pain 2 Hours
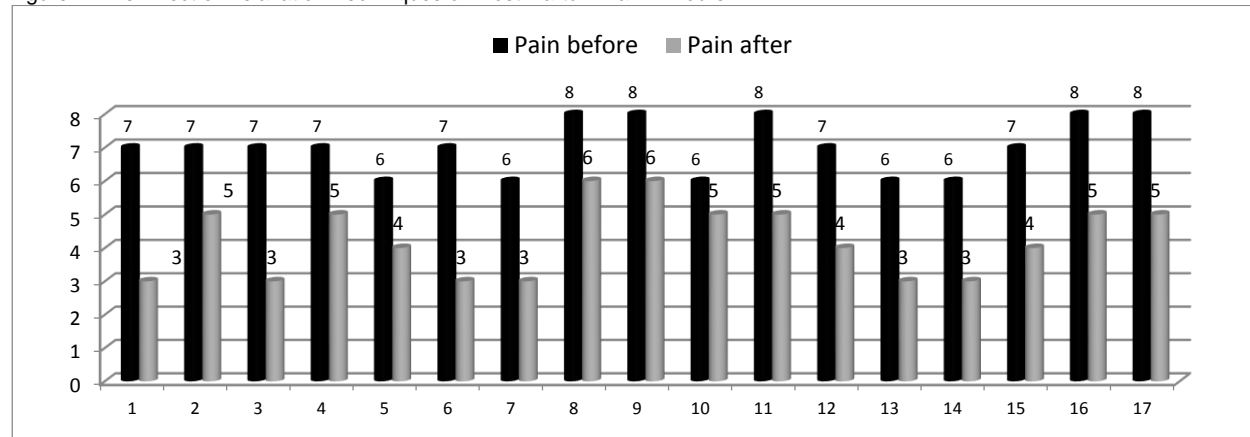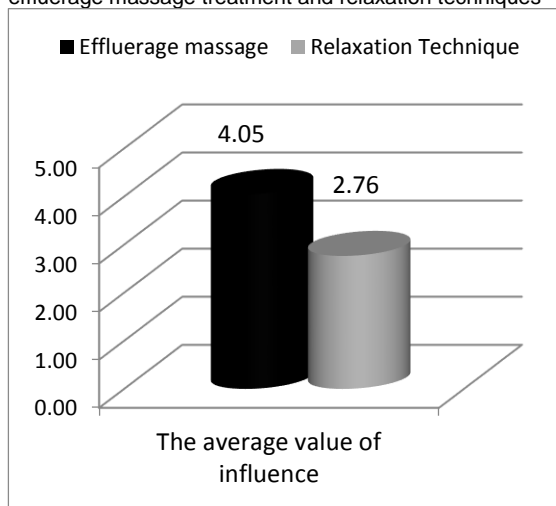

Figure 3. The average value of the effect of the effects of effluerage massage treatment and relaxation techniques

DISCUSSION

Effect of Effleurage Massage on Reduction of Post-partum Pain Period 2 hours Post-partum: From the results in Figure 1, it is known from 19 respondents known to have decreased pain after effleurage massage with a mean reduction in pain four units. Based on the results of statistical tests with Mann Whitney in solid table 2, the Asymp Sig (two-tailed) value = 0,000 (α <0.05) means that there is an effect of effleurage massage on the reduction of postpartum pain at 2 hours postpartum in the practice of independent midwives in the work area Jombang district health center. Effleurage (light massage) is the leading movement in the massage and can sign in any part of the body.

Effleurage shows the beginning until the end of the massage. It can sign before or after stroking and facilitates the flow of one movement to another. The palm must always be in contact with the body, which will feel a continuous change when applying rhythmic pressure from top to bottom to the starting point with a light touch,

maintaining the rhythm and avoiding rough movements .(Jordi, 2007: 24). As shown in table 2. The results of testing that postpartum maternal pain after effleurage have decreased significantly. Where when effleurage has not to be done by four postpartum mothers experiencing pain on a scale of 8 where level 8 is a condition of mothers who experience severe pain under control. After the intervention, effleurage massage by midwives assisting labor has decreased the pain scale, which is very significant to the pain scale three, where the pain scale 3 is a mild pain scale category.

Effleurage massage technique is one of the non-pharmacological methods used to reduce pain in the mother both during labor and after delivery. Massage in the form of soft strokes, slow, and long or unbroken. It can be done with the patient supine or tilted position; this massage technique causes a relaxing effect and creates a feeling of comfort. As Batbual (2010) points out, individuals who experience pain often depend on family members or close friends for support and protection. According to the Batbual theory, when the mother has pain experience, it is necessary to support the nearest person, a midwife has responsibility in addition to providing psychological support and offers interventions to reduce the pain that is by giving effleurage to the puerperal mother. Pain intensity is a description of how severe individuals feel the pain, and one that affects pain is the age where based on figure 1, it shows for the effleurage massage group the majority of respondents aged 18 - 35 years (68.4%). As we get older, the female reproductive organs also experience decreased function, as well as the muscle tone that is stretching during pregnancy, especially if after childbirth does not do proper physical exercise. As a result, the uterine and abdominal tone will relax, which will affect the scale of one's pain.

The age of parity affects based on Figure 2, the majority of respondents obtained multipara parity 14 (73.4%) with parity effects in the abdominal muscles of women with whose condition is getting weaker, so it can make the involution of uterine progress slowly. Abdominal muscle weakness is more common in women who do not exercise to restore abdominal muscle tone after delivery. Thus the severity of uterine involution pain usually increases with parity (Ummah, F. 2012)

Effect of Relaxation Techniques on Decreasing Pain in Postpartum Pain 2 Hours Post-Partum: The results of the study in Figure 2, mentioned that 17 respondents, when not doing relaxation techniques, 11 respondents with experienced pain on a scale of 7-8 in the category of severe pain controlled. When the respondent has been guided by a midwife to perform pain relaxation techniques experienced decreased to 4-5 points pain scale 3-4, where the range of 3-4 included in the category of mild pain, the statistical test results with Mann Whitney solid table 3, the value of Asymp. Sig (two-tailed) = 0,000 (α <0.05) means that there is an influence of relaxation techniques on the reduction of postpartum 2-hour postpartum pain relief in the practice of independent midwives in the work area Jombang district health center.

The method of relaxation of breathing techniques in aiming to improve alveoli ventilation, maintaining gas exchange, prevent lung atelectasis, reduce stress both physically and emotionally, especially to reduce pain intensity and reduce anxiety. The formulation of pain using the breath relaxation technique method in principle lies in the physiology of the autonomic nervous system, which is part of the peripheral nerves that maintain homeostasis of the individual's internal environment and postpartum mothers who initially experience 7-8 scale pain.When the guidance of the midwife by performing deep breath relaxation techniques, experiencing pain reduction of 3-4 points, it is because the mother can sharpen her mindset about pain and how to respond when experiencing pain during childbirth. It is consistent with the gate control theory that by diverting attention by relaxing deep breathing, it can reduce the pain.

A study by Hartanti in 2005 states that relaxation is an effort to reduce pain or prevent more severe pain by reducing muscle tension. Stress management at 2 hours postpartum, which can be done well by the mother, is caused because of the mother's knowledge of information on how to reduce pain during labor and 2 hours postpartum. The knowledge factor owned by the mother that information sources where as many as 9 (52.4%) respondents have obtained information and guidance related to postnatal stress management primarily how to do deep breathing relaxation to manage pain during labor and 2 hours after delivery.

Differences in the Effect of Effleurage Massage and Relaxation Techniques on the Reduction of Post-Partum 2-Hour Postpartum Pain: The results of the statistical test analysis using the Mann Whitney test in table 4. Show that the Asymp. Sig (two-tailed) value = 0.004 (α <0.05); thus, there is a difference in the value of the effect between effleurage massage and relaxation techniques on reducing postpartum pain relief 2 hours postpartum in the practice of an independent midwife Health care service Jombang district working area. Based on Figure 3, the average effleurage massage reduces the pain level by 4.05, while the relaxation technique averages the pain level by 2.76. It concludes that the effect of the effleurage massage effect was more significant in reducing pain levels compared to the treatment of relaxation techniques.

According to Batbual (2010) reveals that the impact of effleurage stimulation is to dilate blood vessels and improve blood circulation in these tissues. It causes the distribution of acidic substances and foodstuffs to the cells to enlarge, and the removal of unused elements will be improved, giving rise to a better exchange of materials. The stimulus to effleurage massage results in increased cell activity and less pain. The emphasis causes stimulation of A-delta and C fibers, which release substance P to transmit impulses through the gate mechanism. This pain signal usually blocks by stimulation of A-beta fibers. Beta nerve fibers are sizeable myelinated nerve fibers that deliver pulses to the central nervous system much faster than A-delta fibers or C. fibers. These fibers respond to stresses in muscles, movements, and electrical stimulation. Emphasis on muscles will reduce tension and increase relaxation, decreased muscle tension will reduce pain perception, and improve blood circulation. Giving a stimulus with massage causes a decrease in stress, a reduction in weight the occurrence of pain in the postpartum mother 2 hours postpartum. The effect of suppression will increase tissue

flexibility, and this will reduce pain and allow for optimal training and will improve blood circulation and promote the process of reducing pain. Likewise, deep breathing relaxation techniques are a form of care that in case teaches the client, how to breathe deeply, slow breathing (hold inspiration to the maximum), and how to exhale slowly.

In addition to reducing pain intensity, deep breathing relaxation techniques as well can increase pulmonary ventilation and increase blood oxygenation (Smeltzer & Bare, 2002).

CONCLUSION

There is an influence between effleurage massage and relaxation techniques on the reduction of pain 2 hours post-partum. midwives need to improve the management of midwifery services by applying pain management without using pharmaceuticals, by developing methods in this case effleurage massage and relaxation techniques.

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