

Pain Suffered by Post Sectio Caesaria Patients: How the Effect of Endorphin Massage and Jasmine Aromatherapy Combination?

Anna Uswatun Qoyyimah¹, Sri Wahyuni², Lilik Hartati³, Dyah Susanti⁴
{annauq1979@gmail.com¹}

Department of Midwifery STIKES Muhammadiyah Klaten, Klaten 57419, Indonesia^{1,2,3,4}

Abstract. Post sectio caesaria pains can be relieved by applying non-pharmacology therapy, one of them is the combination between endorphin massage and jasmine aromatherapy. This combination is able to stimulate the body to release endorphin for relaxation and to deliver electrochemical messages to the central nervous system in order to block the pain receptor. This study is a quantitative one by using quasi-experiment design of non-equivalent pre-test and post-test with two control groups. Sample taking technique used was non-probability sampling of purposive sampling method with 45 respondents. Data was collected by using demography data and NRS assessment. Data analysis was tested with paired T-test, followed by one-way ANOVA test to figure out the influence of given intervention. The study results showed that pain intensity mean in prior to intervention was 5.533 for pre-test and 3.000 for post-test. Analysis data results revealed that significant value of P-value 0.000; P-value <0.05. It can be inferred that the combination of Endorphin massage and Jasmine aromatherapy has had effect on reducing pain intensity in post sectio caesarea patients.

Keywords: Patient, Sectio caesaria, Endorphin massage, Jasmine aromatherapy

1 Introduction

Confinement, the process of giving birth to a baby, is a physiological event, however due to some factors, that event requires medical action in form of *sectio caesarea* (caesarean section) surgery. *Sectio caesarea* action is a surgical process to deliver the new-born through incision of the abdominal wall and the uterus. The incidence rate of *sectio caesarea* is increasingly to rise in Indonesia. In the obstetrics, the midwives need to pay attention or care and fulfil the patient's comfort. One of conditions that causes patient's discomfort is the pains. Pains suffered by post sectio caesarea patients can impede the client's ability to actively involved in mobilization and rehabilitation that will lead to prolonged or extended hospitalization. The pains also have impact on the delay of early breastfeeding since the birth of the new-born baby [1].

Post *sectio caesarea* pain can be overcome by using non-pharmacological methods. One of non-pharmacological pain management attempts that is able in reducing pain perception is by applying *Endorphin massage*. Endorphin massage constitutes a light touch developed by Constance Palinsky and used to manage pains. This sort of light touch technique is able to help in normalizing the heart rate and blood pressure. Endorphin massage includes the light massages that is able to make the fine hair on the skin surface to stand up. Several studies have proven that this technique increases the release of endorphin hormone [2].

Another non-pharmacological method used to relieve the pain is aromatherapy. Aromatherapy is a method that uses high-concentrated essential oil extracted from certain vegetation and given through massage, inhalation, compress, or in its crude/pure form. Common aromatherapy used here is the scent of jasmine. The chemical contents of jasmine are, among others, aetheric oil, indole, benzylic, benzyl alcohol, livalylacetat, linalool, acetate, and *jasmine*. Those chemical contents can be made into standardized ingredients to treat pain. Study results regarding the effect of aromatherapy on the pains suffered by *post sectio caesarea* patients have showed that jasmine aromatherapy candles are able in reducing the *post sectio caesarea* pain[3].

Preliminary study results held in RSU PKU Muhammadiyah Delanggu in October-November discovered 173 cases of *sectio caesarea*. After given with the combination of endorphin massage and jasmine aromatherapy, all of the patients said that the pain decreased. Based on above background therefore the researchers here had the interest in discovering “What is the effect of the combination of endorphin massage and jasmine aromatherapy on the lessening of pain intensity in *post sectio caesarea* patients in RSU PKU Muhammadiyah Delanggu?”

2 Method

This study employed quasi-experiment research design by using non-equivalent *pre-test - post-test with control group*. This study was divided into three groups, the first group was experiment given with the combination of endorphin massage and jasmine aromatherapy. The second group was the control group (1) given with jasmine aromatherapy. And the third group was control group (2) given with no intervention. For those three groups, measurement was performed regarding the reduction of the pain intensity.

The population in this study was all *post sectio caesarea* patients in postpartum rooms/wards of RSU PKU Muhammadiyah Delanggu on 19 April- 9 June. The number of samples used was 45, 15 respondents for each group. Sample taking technique was non-probability sampling in form of purposive sampling with age inclusion criteria of 20-35 years old; have no allergy with jasmine aromatherapy; those who can be communicate with; and willing to be respondent. For exclusion criteria were, among others, *sectio caesarea* or laparotomy history; high blood pressure ($\geq 140/90$ mmHg); any swelling, tumour, and bruises found on the skin surface; client who suffers from or has cancer, asthma, and heart disorder histories; never use aromatherapy due to migraine and cannot be applied to the eyes; or not willing to be a respondent.

Instrument used were, among others, preliminary study questionnaires, observation sheet for NRS pain scale, jasmine aromatherapy, odourless or non-perfume tissue paper, and SOP for endorphin massage. Data collection method used in this study was by giving explanation to the respondents concerning the study procedures and asking the respondents to sign the consent letter to be a respondent. Respondents of three groups. The division was conducted alternately to maintain the balance in the total sample obtained. The researcher then completed the questionnaire sheet contained the characteristic data of the respondent and performed respondent's pain scale measurement in prior to giving intervention. For the experiment group, the researchers applied endorphin massage for 15 minutes, 5 minutes for each arm and shoulder, clients were guided to be relaxed while inhaling jasmine aromatherapy yang put on the tissue paper (1-2 drops). The action was applied once.

For the control group (1), after given with pre-test, the respondents were guided to be relaxed while inhaling jasmine aromatherapy put on the tissue paper (1-2 drops) for 15 minutes. Whereas, for the control group (2), after given with pre-test, the respondents were asked to perform routine activities in the postpartum rooms without given with any intervention. After the intervention, post-test was given to each group, where the respondents were asked to show once more the pain scale they went through and the data were input to the observation sheet.

3 Results and Discussion

Table 1. Analysis of the effect of endorphin massage and jasmine aromatherapy combination on the reduction of pain intensity in the post sectio caesarea patients in RSUPKU Muhammadiyah Delanggu (N=15)

Group	Pain Scale	N	Mean	SD	Std. Error mean	T	Pvalue
Experiment Group	Pre-test	15	5.533	0.734	0.191	13.201	0.000
	Post-test	15	3.000				
Control Group (1)	Pre-test	15	5.533	0.632	0.163	8.573	0.000
	Post-test	15	4.133				
Control Group (2)	Pre-test	15	5.800	0.560	0.144	1.382	0.189
	Post-test	15	5.600				

Based on Table 1, the experiment group showed that the combination of endorphin massage and jasmine aromatherapy was effective in reducing the pain intensity suffered by post *sectio caesarea* patients with statistic value of $P_{\text{value}} = 0.000$; $P_{\text{value}} < 0.05$ means that there is a reduction of pain intensity prior to and after the intervention. For the control group (1), the jasmine aromatherapy given was effective in reducing the pain scale of post *sectio caesarea* patients with statistic result of $P_{\text{value}} = 0.000$; $P_{\text{value}} < 0.05$ means that there is a reduction of pain intensity prior to and after the intervention. Meanwhile, for the control group (2), without any intervention given, it showed statistic result of $P_{\text{value}} = 0.189$; $P_{\text{value}} > 0.05$ means that there is no reduction of pain scale.

Endorphin massage gives relaxing effect thus the patients become calmer and showing the lessening of pain. This study was supported by a research [2] which stated that endorphin massage applied to certain parts of the body is able to stimulate the endorphin hormone, where the rise in endorphin hormone is able in blocking the transmission of pain messages. Endorphin massage made the respondents to be more comfortable, relax, and even there were some respondents fell asleep while given with that massage [4].

The study of aromatherapy effect on reducing pain is in tune with the study that has stated the difference of pain intensity of *postsectio sectio caesarea* before and after the application of aromatherapy inhalation [5]. Another supporting study demonstrates [6] that jasmine aromatherapy candles are able in lessening the pain of *post sectio caesarea*. Linalool contained in the jasmine aromatherapy is able in increasing circulation and sending electrochemical messages to the central nervous system which leads to spasmolytic, as well as decreasing the nerve impulses that transmit the pain [3]. Aroma has essential role in influencing the client's sense of feeling. Chemical substances contained in various oil are the ones who work pharmacologically, in which their way of working can be increased through certain methods, more particularly by massage [7]. The combination of endorphin massage and jasmine

aromatherapy is significantly able in helping the production or release of endorphin compounds and inhibit the pain stimulus through chemical compounds contained in the jasmine aromatherapy.

Those study results [8] support the finding that the combination of endorphin massage and jasmine aromatherapy will stimulate the production of enkephalin, serotonin, and endorphin hormones. Enkephalin can give rise to presynaptic and postsynaptic inhibition on C-type and A-delta pain fibers where they synapse in the cornu dorsalis. The pain inhibition is done by blocking the pain receptors thus those pains are not sent to the cerebral cortex and then will reduce the pain perception.

4 Conclusion

There is the effect of endorphin massage and jasmine aromatherapy combination on the reduction or lessening the pain intensity of *post-sectio* patients with $P_{\text{value}} 0.000$; $P_{\text{value}} < 0.05$.

References

- [1] K. Fase, A. Persalinan, and R. C. L. W, "Terapi endorphin massage untuk menurunkan intensitas nyeri endorphin massage therapy to reduce the intensity of pain during the active phase of labor, Jurnal SMART Kebidanan Sekolah Tinggi Ilmu Kesehatan (STIKes) Karya Husada Semarang Pendahuluan Nyeri p," vol. 4, no. 2, pp. 1–8, 2017.
- [2] N. W. Dewi, Mariza Mustika ; Sukini, Tuti ; Ath Thaariq, Nurul Aziza ; Hidayati, "Effectiveness Of Endorphins Massage And Ice Packs To Relieve The First Stage Of Labor Pain Among The Pregnant Women in Candimulyo Health Center, Indonesia," Proceeding 2 nd Int. Conf. Appl. Sci. Heal., vol. 03, pp. 109–114, 2018.
- [3] N. S. Oktavia, "Efek Aroma Ekstrak Melati Terhadap Pengurangan Nyeri Persalinan Kala I Fase Aktif Pada Parturient," J. Ipteks Terap., vol. 11, no. 4, p. 323, 2017.
- [4] R. F. Devi and C. Sangeetha, "Effectiveness of Routine Back Massage versus Jasmine Oil Back Massage Versus Coconut Oil Back Massage on Labour Pain among Parturient Mothers in Selected Tertiary Care Hospital Bangalore," vol. 6, no. August, pp. 219–224, 2016.
- [5] M. Ina Rahmawati 1, H. Setyowati E. R, and Rohmayanti, "Efektivitas aromaterapi lavender dan aromaterapi lemon terhadap intensitas nyeri post sectio caesarea (sc) di Rumah Sakit Budi Rahayu Kota Magelang," 2013.
- [6] R. M. Joseph and P. Fernandes, "Effectiveness of jasmine oil massage on reduction of labor pain among primigravida mothers," Nitte Univ. J. Heal. Sci., vol. 3, no. 4, pp. 104–107, 2013.
- [7] N. Perry and E. Perry, "Aromatherapy in the Management of Psychiatric Disorders," CNS Drugs, vol. 20, no. 4, pp. 257–280, 2006.
- [8] R. S. P, S. T. Hidayat, H. Setyawan, A. Widyaningsih, and K. Y. Hesti, "4th Asian Academic Society International Conference (AASIC) 2016 HEA-OR-116 The effect of aromatherapy and endorphin massage to decrease 4th Asian Academic Society International Conference (AASIC) 2016," pp. 389–393, 2016.