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EFFECTIVENESS OF ENDHORPHIN AND EFFLEURAGE MASSAGE WITH LAVENDER AROMATHERAPY ON MENSTRUAL PAIN SCALE OF ADOLESCENT FEMALES

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ABSTRACT

Menstruation is a condition in which a woman experiences pain during menstruation and has a bad effect that causes disruption in carrying out daily activities. This condition can occur for 3 days or more each menstruation. One of the non-pharmacological treatments that can be given for example is Endorphin massage and Effleurage massage. Based on the research journal of Razmjooee and Maria Elvira, both of these treatments are very effective in reducing pain because they both function to produce endorphin hormones. The research design used in this study was a quasi-experimental study with a pretest-post test with two group design. The Wilcoxon test showed that there was a difference in the effectiveness of Endorphin Massage with Lavender Aromatherapy and Effleurage Massage with Lavender Aromatherapy on the intensity of dysmenorrhea pain in adolescent girls, while the Mann Whitney test showed that there was no difference in the effectiveness of Endorphin Massage with Lavender Aromatherapy and Effleurage Massage with Lavender Aromatherapy on the Scale of Menstrual Pain in Adolescent Girls in the Karangdoro Health Center Work Area, Semarang City. It is hoped that the results of this study will be useful for reducing menstrual pain in adolescent girls.

Keywords :Dismenorhea, Effleurage Massage, Endorphine Massage

INTRODUCTION

Menstruation is a physiological process in a woman. Menstrual pain is interpreted as a symptom of a recurrence of the medical term called catmenial pelvic pain, which is a condition in which a woman experiences pain during menstruation and has a bad effect that causes disruption in carrying out daily activities. This condition can occur 3 days or more each menstruation. Work activities are disrupted so that they cannot carry out tasks optimally (Warita 2020).

Menstrual pain or dysmenorrhea can be treated with pharmacological and non-pharmacological measures. One of them is by taking painkillers, namely mefenamic acid, asoirin etc. For non-pharmacological treatment, relaxation acupuncture, hypnotherapy can be done. and one effective way is by doing massage and warm water compresses(Warita 2020).

To reduce dysmenorrhoea, there are several therapies that can be done carried out, namely pharmacological and non-pharmacological. By pharmacological by consuming analgesics, but this can be done causes drug dependence and causes side effects from drugs. Non-pharmacological therapy that is useful for reducing pain when primary dysmenorrhoea occurs, these include dysmenorrhea exercise, kegel exercise, pelvic rocking, effleurage massage, endorphine massage, petriddage, and warm compresses (Elvira M 2018).

Massage is one way to get rid of the feeling tired, improve blood circulation, stimulate the body to excrete toxins and improve mental health. Massage techniques can help the patient feels fresher, relaxed and comfortable. Endorphin massage is a touch therapy or light massage that

stimulates the body to release endorphin compounds which are useful for providing comfort, feeling relax and calm so that pain can be reduce.(Lili Kartika Sari Hrp, Asriwati 2022).

Endorphin massage is a light touch method first developed by Constance Palinsky which is used to treat pain. This technique can also be used to normalize the heart rate. This technique is done by massaging which can make the fine hairs on the surface of the skin stand up. Some researchers say this massage can reduce pain because it can increase the release of endorphin and oxytocin hormones (Pramudita CF 2020).

Effleurage massage is a light, rhythmic massage performed on the entire surface of the skin without any movement of the inner muscles. A massage technique performed to help speed up the recovery process of back pain by using gentle, slow strokes to create a relaxing effect (Wati YS 2021).

Lavender aromatherapy contains linalyl acetate and linalool which are believed to provide a relaxing effect for tense nerves and muscles (carminative) after tiring activities and during primary dysmenorrhea pain (Chofifah Fidiyatul Mukaromah 2021)

Based on research by (Rosi Rosyda Yugianti, Dewi Nurdianti 2022), The results of this literature study reveal the non pharmacological method of massage effleurage by using lavender aromatherapy oil can reduce the scale of disminore pain with an average research result of Pv = 0.00 ≤ α = 0.05. The results of the study also showed a decrease in the average pain value before lavender aromatherapy massage with a value of 7.36 and after lavender aromatherapy massage with a value of 3.54 (Wati YS 2021).

Based on research by Maria Elvira et al., it was proven that after endorphin massage, it effectively reduced menstrual pain (dysmenorrhea) with a value of p=0.004 (p<0.05). This means that there is a significant difference between endorphin massage and the menstrual pain scale, so it is concluded that there is an influence between endorphin massage and the menstrual pain scale (Harahap and et al 2022)

METHOD

The study was conducted in the Karangdoro Health Center Working Area of Semarang City in January 2023. This type of research is quantitative. The research design used a quasi-experimental with pretest and posttest two group design. Treatment was given during dysmenorrhea on the 2nd and 3rd days. Furthermore, the level of pain was measured before and after the intervention.

The population in this study were all adolescents aged 11-21 years with a total of 48 female adolescents who complained of abdominal pain during primary menstruation (primary dysmenorrhea) in the work area of the Karangdoro Health Center, Semarang City in January 2023. The inclusion criteria in this study were adolescent girls aged 11-21 years, experiencing primary dysmenorrhea on the 2nd and 3rd day of menstruation and adolescent girls who experienced mild to moderate pain (1-6). The exclusion criteria were respondents with pathological pain (infection/pain due to a disease), adolescent girls who experienced primary dysmenorrhea by taking analgesic drugs, adolescent girls who underwent other non-pharmacological therapies such as compresses or other therapies such as herbal medicine, adolescent girls who did not experience dysmenorrhea. The sampling technique in this study was purposive sampling.

The variables in this study were the provision of Endorphine massage and the provision of effleurage massage with lavender aromatherapy. Research instruments using the Endorphin Massage SOP sheet that has been tested by experts, the Effleurage Massage SOP sheet, the NRS pain measurement scale sheet with a combination of VDS, lavender Essential Oil, observation sheet. Bivariate analysis using the Wilcoxon and Mann-Whitney statistical tests (Notoadmojo 2010).

The hypothesis in this study is the Alternative Hypothesis (Ha) and the Null Hypothesis (H0). Ha in the study is There is a difference in the effectiveness of endorphine Massage and Effleurage massage with Lavender Aromatherapy on the menstrual pain Scale of

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adolescent girls in the Karangdoro Health Center work area. Meanwhile, H0 in this study is that there is no difference in the effectiveness of endorphin massage and effleurage massage with lavender aromatherapy on the menstrual pain scale of female adolescents in the Karangdoro Health Center work area.

RESULTS

This study was conducted in January 2023 with a population of 48 female adolescents experiencing primary dysmenorrhea in the Karangdoro Health Center Working Area, Semarang City. There were 20 respondents, each respondent was divided into two treatment groups, namely the intervention group (Endorphin Massage with Lavender Aromatherapy) of 10 respondents and the control group (Effleurage Massage with Lavender Aromatherapy) of 10 respondents. Interventions were given to female adolescents experiencing dysmenorrhea on the 2nd and 3rd days. This study was conducted in theKarangdoro Health Center Working Area, Semarang City.

Table 4.1 Menstrual pain Scale Before and After Endhorpin Massage With Lavender Aromatherapy (intervention group 1)

Variabel	Mean	Std Deviation	Min	Max
Menstrual Pain Scale Before Endorphin Massage With Lavender Aromatherapy	5,78	1,476	4	8
Menstrual Pain After Effleurage Massage With Lavender Aromatherapy	5,56	1,265	2	6

The pain scale in table 4.1 shows the results before being endorphin massage and lavender aromatherapy with an average pain scale of 5.78. After being given endorphin massage and lavender aromatherapy the average pain was 5.56

Table 4.2 Menstrual Pain Scale Before and After Effleurage Message With Lavender Aromatherapy

Variable	Median	Std. Deviation	P Value
Menstrual Pain Scale Before Effleurage Massage With Lavender Aromatherapy	8,90	1,265	0,148
Menstrual Pain Scale After Effleurage Massage With Lavender Aromatherapy	2,10	0,843	

From table 4.2, the pain scale before being given effluent massage and lavender aromatherapy compared to after being given effluent massage and lavender aromatherapy experienced a decrease as indicated by a p value of 0.148

Table 4.3 The Effect of Endorphin Massage with Lavender Aromatherapy on Menstrual Pain Scale

Variable	Median	Std.Deviation	P Value
Menstrual Pain Scale Before Endorphin Massage With Lavender Aromatherapy	6,00	1,476	0.003
Menstrual Pain Scale After Endorphin Massage With Lavender Aromatherapy	6,00	1,265	

From table 4.3 it shows that there were changes before and after endorphin massage and aromatherapy were given with a p value of 0.003.

Table 4.4 Effect of Effleurage Massage with Lavender on Pain Scale (Intervention Group 2)

Variable	Median	Std.Deviation	P Value
Menstrual Pain Scale Before Effleurage Massage With Lavender Aromatherapy	6.00	1,265	0,004
Menstrual Pain Scale After Effleurage Massage With Lavender Aromatherapy	2,00	0,843	

From table 4.4 it shows that before and after effluent massage was given there was a change

in the pain scale as indicated by a p value of 0.004.

Table 4.5 Difference In The Effectiveness of Endorphin **Aromatherapy on th Scale of Menstrual Pain in Adolescent Girls**

Variabel	Mean	Std Deviation	Min	Max
Pain Scale Before Efflurage Massage with Lavender Aromatherapy	5,56	1,265	4	8
Menstrual Pain After Effleurage Massage With Lavender Aromatherapy	2,33	0,84	2	4

From table 4.5 shows the difference in the decrease in pain scale between effluence massage with an average of 5.56, while endorphin massage with an average of 2.33.

DISCUSSION

1. Menstrual Pain Scale in Adolescent Girls Before and After Endorphin Massage with Lavender Aromatherapy

The highest menstrual pain scale before the intervention was 8, all respondent after Endorphin Massage with Lavender Aromatherapy decreased to 4. The scale of menstrual pain is influenced by several factors, namely internal and external factors. External factors include massage. Endorphin Massage is needed to influence the scale of menstrual pain in adolescents.

The results of this study are supported by (Nia Erviza 2024), which shows that there is an effect of giving endorphin massage on reducing dysmenorrhea.

The results of this study are also supported by research from (Zuhrotunida, Nella Desiyanti 2022) which concludes that the reduction in pain depends on the level of endorphins produced. Endorphine massage intervention to reduce dysmenorrhea pain decreased the degree of pain.

2. Menstrual Pain Scale in Adolescent Girls Before and After Effleurage Massage with Lavender Aromatherapy in the Karangdoro Health Center Work Area.

The highest pain scale before the intervention was 8, all female adolescent respondents after Effleurage massage with Lavender Aromatherapy decreased to 4.These results are in accordance with research conducted by (Sumiyati 2023) Effleurage Massage effectively reduces the intensity of dysmenorrhea pain in adolescents. The success of providing effleurage massage for menstrual pain has been shown to increase blood circulation and sensory nerves prevent pain transmission. This massage also releases endorphins and enkephalins which can reduce pain or pain, increase comfort, relaxation, relax muscles, and reduce anxiety in patients. Endorphin compounds will be released by the body as a natural pain reliever from the body and create a feeling of comfort.

The results of this study are also supported by research from (Maryati Sutarno, Meyske Elsina Sahetapy 2024) which concludes that the influence of effleurage massage on reducing dysmenorrhea pain in adolescent girls with research results showing Asymp. Sig (2 – Talled) with a value of 0.000.

3. The Effect of Endorphin Massage with Lavender Aromatherapy on the Menstrual Pain Scale adolescent Girls in the Karangdoro Health Center Work Area

The results of the Wilcoxon test obtained a ρ value of 0.003 <0.05, which means that there is an effect of Endorphin Massage with Lavender Aromatherapy on the Menstrual Pain Scale of Adolescent Girls in the work area of the Karangdoro Health Center, Semarang City.

The results of this study are in line with the research of (Septianingrum 2019) entitled "The Effect of Endorphin Massage on Menstrual Pain in Final Year Nursing Students at Nadhatul Ulama University, Surabaya" which obtained the statistical test value of the menstrual pain scale before and after Endorphin Massage at a significance level of 95% (α = 0.05), a significant value of ρ = 0.000 (ρ = <0.05) was obtained, meaning Ho was rejected (p = 0.001,

p <0.05) which means there is an effect of Endorphin Massage with lavender aromatherapy on Reducing the Pain Scale in adolescent girls

4. The Effect of Effleurage Massage with Lavender Aromatherapy on the Menstrual Pain Scale in Adolescent Girls in the Karangdoro Health Center Work Area

   The results of the paired Wilcoxon test obtained a ρ value of 0.004 <0.05, which means that there is an effect of Effleurage Massage with Lavender Aromatherapy on the Menstrual Pain Scale of Adolescent Girls in the Work Area at the Karangdoro Health Center, Semarang City.

   The research results are supported by (Siti Rusyanti 2019) entitled "Effleurage Massage Reduces Menstrual Pain". The Wilcoxon test results show a p value = 0.001 <0.05. This value states that Effleurage Massage can reduce the scale of menstrual pain.

5. Differences in the Effectiveness of Endorphin Massage and Effleurage Massage with Lavender Aromatherapy on the Scale of Menstrual Pain in Adolescent Girls

   The results of the Mann Whitney test obtained ρ value of 0.148> 0.05, so Ha was rejected, which means there is no difference in the effectiveness of Endorphin Massage and Effleurage Massage with Lavender Aromatherapy on the Menstrual Pain Scale of Adolescent Girls in the Karangdoro Health Center work area, Semarang City.

CONCLUSION

Providing endhorphine massage with lavender aromatherapy and effleurage massage with lavender aromatheraphy both have an effect on reducing the pain of dysmenorrhea in young women and girls no difference *effectiveness w*hich *significant between providing* endhorphine massage with lavender aromatherapy and effleurage massage with lavender aromatheraphyin the sense that both have the same effectiveness in reducing the pain of dysmenorrhoea in young women.

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