THE EFFECT OF MASSAGE EFFLEURAGE WITH LAVENDER AROMATHERAPY ON THE INTENSITY OF DYMENORORE PAIN IN ADOLESCENT WOMEN IN THE PABELAN HEALTH CENTER

Rose Nur Hudhariani, Yunani, Alfi Ristanti

Karya Husada University Semarang

rose@stikesyahoedsmg.ac.id, yunani.sururi@gmail.com

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ABSTRACT

The incidence of dysmenorrhea in the world is very large, at least 45-90% of women experience dysmenorrhea during the reproductive years. Several self-care measures can be taken for the management of menstrual pain. One of the non-pharmacological methods to reduce pain intensity can be done by using effleurage massage and lavender aromatherapy. This study aims to find out the effect of massage effleurage combination of lavender aromatherapy on the intensity of dysmenorrhea pain in adolescent women in the working area of Pabelan Health Center. The research method used is quantitative using a quasi-experimental approach. The sampling technique used non-probability sampling/non-random, the number of samples was 28 people according to the specified criteria. . Sample inclusion criteria are teenage girls who experience mild and moderate dysmenorrhea, regular menstrual cycles of 28 to 30 days, and never use analgesics Massage effleurage combined with lavender aromatherapy for 10 minutes. The act of giving 3 drops of lavender aromatherapy into 40 ml of water through a diffuser that will be turned on during massage effleurage therapy The result of this study was that there was a difference in disminore pain in adolescent women before and after the intervention of Massage Effleurage therapy combined with lavender aromatherapy in the working area of Pabelan Health Center of Semarang Regency (P-value = 0.000). Advice for teenage girl that experiencing dysminorhoe is being able to efflurage a combination of aromatherapy as an effort to reduce dysminorhoe

Keywords: Dysmenorrhea, Lavender Aromatherapy, Massage Effleurage,

BACKGROUND

The incidence of dysmenorrhea cases is quite high; the findings of the study revealed that 54.9% of women had dysmenorrhea, with symptoms ranging from mild (24.25%), moderate (21.28%), and severe (9.36%). This implies that one out of every ten teens has severe dysmenorrhea (Savitri, 2015). According to several international reports, the global prevalence of dysmenorrhea is excessively high, with at least 45-90 percent of women experiencing dysmenorrhea during their reproductive years (Holder et al., 2016). More than half of all women in every country experience menstrual pain. The frequency of primary dysmenorrhea in women worldwide remains at 90%. (Rahmawati, 2017).

Adolescent women in Africa have primary dysmenorrhea at a rate of up to 85.4%, while adolescent women in Germany experience primary dysmenorrhea at a rate of up to 52.07%. According to epidemiological research conducted on the adolescent population (aged 12-17 years) in the United States, the prevalence of dysmenorrhea is 59.7%. This study also reports that dysmenorrhea causes 14% of adolescents to miss school frequently and the incidence of dysmenorrhea in America can affect the economy by losing 600 million hours of work and a loss of $2 billion per year. In Malaysia, the prevalence of dysmenorrhea in adolescents is 62.3% (Bonde, 2014). Several self-care measures can be used to manage menstrual pain, including abdominal heat therapy (heating pads, warm baths), massage, exercise, rest and sleep, relaxation techniques (biofeedback, otogenic training, yoga, meditation), and natural diuresis (reducing salt, plant therapy, vitamins) (Reeder et al., 2014).

Effleurage massage and lavender aromatherapy are two non-pharmacological approaches for reducing pain intensity. Effleurage is a type of massage that uses the palms of the hands to provide gentle pressure to the surface of the body in a circular motion repeatedly. This technique tries to enhance blood circulation, apply pressure to and warm the abdominal muscles, and promote physical and mental relaxation. Effleurage is a massage technique that is safe, simple to perform, does not require many materials, is inexpensive, has no negative side effects, and may be performed alone or with the assistance of others (Tikamala, 2016).

Aromatherapy is a technique that employs essential oils to promote physical, emotional, and spiritual well-being. Another benefit is that it alleviates pain and anxiety (Monahan et al., 2007). Several studies have demonstrated that aromatherapy can help with pain and anxiety in hospitalized patients at Abbott Northwestern Hospital (Appleton, 2012).

Aromatherapy Lavender is an analgesic essential oil that contains 8% terpenes and 6% ketones. The most frequent terpene molecules identified in plant essential oils are monoterpenes. A high-quality lavender extract not only matches but ideally exceeds these standards, with higher linalyl acetate (ideally 33-45%) and lavandulyl acetate (1.5%) content and lower limitations for cineol content, which is an ester molecule generated by mixing organic acids and alcohols. Esters can help to normalize mental states and imbalanced physical conditions (Appleton, 2012).

This study aimed to see how massage effleurage combined with lavender aromatherapy affected the intensity of dysmenorrhea pain in adolescent women in the Pabelan Health Center Work Area.

METHOD

This research was conducted in April-July 2021 in the working area of the Pabelan Health Center, Semarang Regenci. This is a quantitative study using quasi-experimental research methodologies. The pretest-posttest design was employed in this research, including a control group. In this research, non-probability sampling/non-random sampling was used (not random). This study included 28 young women with dysmenorrhea as samples. Sample inclusion criteria are teenage girl who experience mild and moderate dysmenorrhea, regular menstrual cycles of 28 to 30 days, and never use analgesics

Data was collected by checking for the pre-test value before the intervention by having respondents fill out an observation checklist using a pain intensity measuring scale based on a numeric rating scale (NRS). Then proceed with the treatment, namely the provision of Massage Effleurage therapy combined with Lavender Aromatherapy for 10 minutes. The action of putting 3 drops of lavender aromatherapy into 40 ml of water and running it through a diffuser that will be turned on during massage effleurage therapy. Following the intervention, the post-test value was determined by measuring the respondent's pain scale by filling out the observation checklist sheet with pain intensity measuring equipment based on the numeric rating scale (NRS).

The data were analyzed using univariate analysis to explain the data on dysmenorrhea pain before and after the intervention. Data analysis results in the form of mean, median, and standard deviation. The bivariate analysis was then checked using Shapiro Wilk to determine whether the data distribution was normal or not. When the data normality test results indicated that the data was not normal or p 0.05, the Wilcoxon test was performed.

RESULT AND DISCUSSION

1. Dysmenorrhea pain in adolescent women before and after the intervention of Massage Effleurage therapy combined with Lavender Aromatherapy in the working environment of Pabelan Health Center Semarang Regency.

Table 1 The average dysmenorrhea pain in adolescent women before and after the intervention

Variable	N	Median	SD	Min	Max
Pre-intervention	28	8	0,875	7	9
Post-intervention	28	3	0,813	2	4

Table 1 shows that dysmenorrhea pain in adolescent women before the intervention of Massage Effleurage therapy combined with Lavender Aromatherapy had a median value of 8 and a standard deviation of 0.875, as determined by 28 respondents. Before the intervention of Massage Effleurage therapy combined with Lavender Aromatherapy, the dysmenorrhea pain scale in adolescent women is the lowest 7 and the highest 9 .

Dysmenorrhea pain in adolescent women after massage Effleurage therapy intervention combined with Lavender Aromatherapy with a median value of 3 and a standard deviation of 0.813. The dysmenorrhea pain scale in adolescent women after the intervention of Massage Effleurage therapy combined with Lavender Aromatherapy is the lowest 2 and the highest 4.

2. .Differences in dysmenorrhea discomfort in adolescent women before and after the intervention of Massage Effleurage therapy mixed with Lavender Aromatherapy in the work area of Pabelan Health Center Semarang Regency

Table 2 Differences in dysmenorrhea discomfort in adolescent women before and after the intervention

Variable	P-value
Pre-intervention	
Post-intervention	0,000

Based on table 2, it can be seen that the P-value = 0.000, indicating that there are changes in dysmenorrhea pain in adolescent women before and after the intervention of Massage Effleurage therapy combined with Lavender Aromatherapy in the work area of the Pabelan Health Center, Semarang Regency.

DISCUSSION

1. Dysmenorrhea pain in adolescent women before and after the intervention of Massage Effluerage therapy combined with Lavender Aromatherapy in the working area of Pabelan Health Center Semarang Regency

The findings revealed that adolescent women experienced dysmenorrhea pain prior to the intervention of Massage Effluerage therapy combined with Lavender Aromatherapy, with a median value of 8 and a standard deviation of 0.875. The respondent's pain level with a stabbing pain response is so strong that the pain entirely dominates, the pain is so intense that the respondent can no longer think clearly and endure it. Before the intervention of Massage Effluerage therapy combined with Lavender Aromatherapy, the dysmenorrhea pain scale in adolescent women was the lowest 7 and the highest 9.

Dysmenorrhea pain in adolescent women after massage Effluerage therapy intervention combined with Lavender Aromatherapy with a median value of 3 and a standard deviation of 0.813. The pain scale for dysmenorrhea in adolescent women after Massage Effleurage therapy combined with Lavender Aromatherapy is the lowest 2 and the highest 4. The level of pain experienced by respondents who answered with low pain response, such as mild pinching, moderate pain, such as intentional cutting, and severe pain, such as toothache.

The NRS (Numeric Rating Scale) sheet was used to measure the level of pain experienced by respondents. The Numeric Rating Scale (NRS) is a basic linear scale that is extensively used in clinical practice to measure pain intensity. NRS is represented by a number line ranging from 0 to 10, with 0 indicating no pain, 5 indicating moderate pain, and 10 indicating severe pain.

According to Merdekawati's research, the NRS is a best pain-measure tool because its sensitivity value is higher than the VAS pain at scale. According to the results of the univariate analysis of respondents' pain using the VAS scale, 41 people have moderate pain from NRS, and 37 people have severe pain. Bivariate analysis using kappa test with p-value (0,00) < α (0,05), VAS sensitivity (85.4%), NRS (93%), VAS specificity (45.9%), NRS (50%). [56]

Pain is a condition in which an individual feels an unpleasant sensation as a result of a noxious stimulus (Potter & Perry, 2015). Dysmenorrhea is pain during menstruation that is felt in the lower abdomen in the Michaelis square area; the pain occurs before, during, and after menstruation and can be colic or continuous (Namora., 2013).

The pain is characterized by occasional spasms that are normally localized to the lower abdomen but can spread to the waist and thighs. Pain may be associated with nausea, vomiting, headache, and irritability. When a clot or piece of uterine lining passes through the cervix, the pain intensifies, especially if the cervical canal is narrow.

The research found that young women had a good understanding of the meaning, duration, and reasons for menstruation, but a low knowledge of cycles and hormones that play a role in menstruation. Having a thorough understanding of dysmenorrhea, including the definition of dysmenorrhea, the age at which dysmenorrhea most commonly occurs, and the severity and causes of dysmenorrhea. Non-pharmacological approaches are used to treat dysmenorrhea (17.86%). Pharmacologically, young women choose the traditional medication betel leaf (67.00%), whilst those who prefer completed drugs are OJ-2 (40.00%). Drowsiness was reported as a medication adverse effect (56.52%). The medication was chosen because it provides immediate pain relief (97.83%). It is recommended to provide both pharmaceutical and non-pharmacological treatment for dysmenorrhea (Rustam., 2014).

Pain management strategies encompass both pharmaceutical and non-pharmacological approaches. This method is chosen based on the needs and goals of the individual patient. All therapies are most effective if done out before the pain worsens, and the best success is generally attained when several interventions used stimulants (Potter & Perry, 2015). Non-pharmacological treatment methods, such as Massage Effluerage paired with Lavender Aromatherapy, were employed in this study. The results showed after the respondents' pain severity decreased after the intervention this is consistent with the hypothesis that Massage Effleurage paired with Lavender Aromatherapy can alleviate pain and create a sense of calm.

Massage effleurage is a natural approach to decreasing pain by moving and massaging rhythmically (Rohani, Sawita & Marisah., 2011). Massage effleurage rubs certain parts of the body with the whole surface of the palms

and fingers. The research is found that there is an effect of Back Abdominal Massage on the reduction of dysmenorrhea, indicating that before the intervention, the respondent's highest pain was severe pain, but after the intervention, the respondent's pain was only moderate pain (Sinurat, Efa, 2018).

The composition of lavender oil aromatherapy is linalool acetate can relax and calm the nervous system and tight muscles. According to various study publications, lavender essential oil can promote relaxation (carminative), sedative properties, reduce anxiety levels, and improve one's mood (Dewi, 2013).

2. Differences in dysmenorrhea pain in adolescent women before and after the intervention of Massage Effleurage therapy combined with Lavender Aroma Pabelan Health Center Semarang Regency work area Semarang Regency.

The results showed that P-value = 0.000, indicating that there is a difference in dysmenorrhea pain in adolescent women before and after the intervention of Massage Effleurage therapy combined with Lavender Aromatherapy in the work area of the Pabelan Health Center, Semarang Regency. The results showed that Massage Effleurage therapy combined with Lavender Aromatherapy could reduce the intensity of dysmenorrhea pain in adolescent women.

The mechanism of Massage Effleurage in reducing dysmenorrhea pain plays a role in maintaining homeostasis against excessive sympathetic work by regulating the autonomic nervous system against baroreceptor reflexes, when blood pressure (BP) increases impulses traveling through baroreceptor afferent fibers resulting in relaxation of vascular smooth muscle, heart rate and decreased contractility myocardial, causing the heart's minute volume to decrease. The restoration of blood flow throughout the body's tissues returns the body to a normal state of health (healthy), growth (improves health), restoration (healing against disease), and hence pain reduction (Qurniasih, 2017).

The way Lavender oil works is that the content of linalyl and linalol which is inhaled into the nose is captured by the olfactory bulb and subsequently ends up in the limbic system, Aromatherapy promotes the production of encephalin or endorphins in the hypothalamus, PAG, and ventromedial rostral medulla once it has entered the limbic system. Encephalin causes the raphe nucleus in the brain to produce serotonin, which has a soothing and calming effect and reduces anxiety (Karlina et al., 2015).

Aromatherapy is a technique that employs essential oils to promote physical, emotional, and spiritual well-being. Another benefit is that it alleviates pain and anxiety (Monahan et al., 2007). Several studies have shown that aromatherapy is useful for pain and anxiety relief in hospitalized patients at Abbott Northwestern Hospital (Appleton, 2012).

According to the study, respondents saw a reduction in dysmenorrhea pain after receiving Massage Effleurage therapy combined with Lavender Aromatherapy. However, some responders continue to suffer from dysmenorrhea. Altough the fact that the Massage Effleurage treatment intervention was combined with Lavender Aromatherapy, the pain scale was not as high as it would have been if the intervention had not been administered. This is most likely related to individual variances in pain sensitivity. Respondents with a high pain threshold will not complain of pain in response to a minor painful stimulus, whereas respondents with a low pain threshold will quickly feel pain in response to a small painful stimulus.

Massage Effleurage and Lavender Aromatherapy interventions do not completely cure dysmenorrhea pain 100%; rather, they act as non-pharmacological therapies that enhance or boost the work of the neurological system in the body, reducing pain sensation and diverting dysmenorrhea discomfort reported by young women. In addition, the knowledge of young women about how to deal with pain during dysmenorrhea will greatly affect the perceived pain threshold.

CONCLUSIONS AND SUGGESTIONS

Dysmenorrhea pain in adolescent women prior to Massage Effleurage therapy combined with Lavender Aromatherapy, with a median value of 8 and a standard deviation of 0.875. Before the intervention of Massage Effleurage therapy combined with Lavender Aromatherapy, the dysmenorrhea pain scale in adolescent females was the lowest 7 and the highest 9.

Dysmenorrhea pain in adolescent women after massage effleurage therapy intervention combined with lavender aromatherapy, with a median value of 3 and a standard deviation of 0.813. The dysmenorrhea pain scale in adolescent girls after the intervention of Massage Effleurage therapy combined with Lavender Aromatherapy is the lowest 2 and the highest 4.

There is a difference in dysmenorrhea pain in adolescent girls before and after the intervention of Massage Effleurage therapy combined with Lavender Aromatherapy in the work area of Pabelan Health Center Semarang Regency (P-value = 0.000).

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