



Effect Of Lavender Oil Aromaterapy On Menstrual Pain In Students AT SMPN18 PESAWARAN In 2020

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ABSTRACT

The problem of primary dysmenorrhoea is largely overcome by resting and taking medication. Many ways to eliminate or reduce dysmenorrhea both pharmacologically and non-pharmacologically. Management of menstrual pain can also be managed non-pharmacologically, such as giving aromatherapy, aromatherapy administration techniques can use a variety of aromatherapy such as lavender. The purpose of this study was to determine the effect of Lavender Oil Aromatherapy on Menstrual Pain in Students at SMP N 18 Pesawaran in 2020. This type of quantitative research design is quasy experimental design research with one grub pretest and posttest approach. The population in this study were all students. Samples taken in this study were 31 students who experienced disminorea when the study took place. Analysis of the data used using the Wilcoxon test. The results of data analysis and processing found that there was an effect of Lavender Oil Aromatherapy on Menstrual Pain in Junior High School 18 Pesawaran in 2020 with a p-value of 0,000 <0.05. Respondents can increase their knowledge about handling disminorea by searching for information via the internet or reading books, so that respondents are not dependent on pharmacological treatment alone.

1. Introduction

Adolescence is one of the most important periods of human development. At this time there are many life events and changes that will occur in a teenager that will determine the quality of his life in adulthood. Adolescence is a transitional period from childhood to adulthood marked by changes in physical, psychological and psychosocial aspects (Darnisah and Lismarni, 2013).

In adolescent girls, there is a physical change, namely changes in the reproductive organs which are marked by the arrival of menstruation. Menstruation is periodic vaginal bleeding due to the detachment of the endometrial lining of the uterus. The normal age for a woman to have her first period is at age 12 or 13. But there are also

those who experience it earlier, namely at the age of 8 years or later, namely the age of 18 years. Menstruation will stop automatically when women are 40-50 years old (Erina et al, 2014).

One of the problems during menstruation is pain. Pain during menstruation is of course very torturous for women. Stabbing pain, severe pain around the bottom and sometimes even having difficulty walking are often experienced when menstruation strikes. This pain can last from half a day to five days and often looks like a persistent pain. Many women are forced to lie down because they suffer too much to do anything. Some fainted, some felt nauseous, some actually vomited. This greatly disrupts women's daily activities and can

have an impact on decreasing work productivity. The term *dysmenorrhea* is only used when the pain is so severe that it interferes with activities and requires medication. The uterus or uterus consists of muscles that also contract and relax. In general, uterine muscle contractions are not felt, but contractions are intense and often cause blood flow to the uterus to be disturbed, causing pain (Ninik, 2010).

The causes of menstrual pain can vary, it can be due to pelvic inflammatory disease, endometriosis, tumors, abnormalities in the location of the uterus, a perforated hymen or vagina, excessive stress or anxiety. Another cause of menstrual pain is thought to be a hormone imbalance and it has no relationship with the reproductive organs (Judha, 2012).

The number of dysmenorrhea in the world is very large, on average more than 50% of women in every country experience dysmenorrhea (Anurogo, 2011). In Indonesia, the incidence of primary type dysmenorrhea is around 54.89%, while the rest are patients with secondary dysmenorrhoea. Dysmenorrhoea occurs in adolescents with a prevalence ranging from 43% to 93%, where around 74- 80% of adolescents experience mild dysmenorrhoea (Nurwana, 2017).

There are many ways to eliminate or reduce dysmenorrhea both pharmacologically and non-pharmacologically. Most of the women use drugs that function curatively, where in general 50-60% of women need these drugs to have adverse side effects (Anurogo, 2011).

Pharmacologically, pain can be treated with analgesic therapy, which is the most commonly used method of pain relief. This therapy can be addictive and cause drug side effects that are dangerous for the patient. In the scope of nursing, non-pharmacological therapy is developed as an independent action by nurses such as holistic therapy. Holistic therapy for pain management includes therapeutic touch, acupressure and relaxation. Relaxation techniques provide

individuals with self-control when pain occurs and can be used when someone is healthy or sick (Darnisah and Lismarni, 2013).

Aromatherapy is a very popular alternative therapy. Aromatherapy is a way of caring for the body and / or curing diseases by using *essential oils*. Aromatherapy has the advantage that its use is relatively practical and efficient, and its properties are proven to be quite potent (Gusti et al, 2014). In the study by Maharani et al. (2016) researchers used lavender flower aromatherapy (*Lavandula angustifolia*) to the intensity of dysmenorrhea pain, the most pain intensity was mild pain, namely 75%. Then the results of research by Gusti et al. (2014) researchers used rose aroma therapy. The results showed that in the rose flower aromatherapy group, respondents experienced a decrease in pain intensity in the first 10 minutes.

The reason lavender is used as aromatherapy is because the main ingredient of lavender flowers is *linalool* acetate, which is the main active ingredient that plays a role in the anti-anxiety (relaxation) effect of lavender. Lavender oil with its linalool content which provides a relaxing effect is one of the aromatherapy oils that are widely used today, either by inhalation (inhaled) or by massage techniques on the skin. Lavender oil has the effect of balancing the body and mind systems. Capable of relieving headaches, sadness, bad sleep, also suitable for hair loss, dull hair, head lice, insect bites, sunburn, bad breath, sunburn. Also suitable for reducing high blood pressure, sore muscles, stretching and pain during menstruation. The oil, which is a very multipurpose ingredient, should always be available for both aromatherapy treatments and as a home supply. This oil is very safe and has been traditionally used for thousands of years as a pain reliever, wound healer, and soul balancer (Dewi, 2011).

Lavender aroma therapy is more effective because 75% of the dysmenorrhea pain is reduced

to a mild intensity. The pleasant smell will stimulate the pituitary to release endorphins which act as natural painkillers and produce a feeling of relaxation, calm and pleasure. The feeling of calm will stimulate an area in the brain called the raphe nucleus to secrete serotonin which has a sedative effect (Koensomardiyah, 2009).

Based on the results of the pre-survey in January at SMPN 18 Pesawaran, there were 130 female adolescent students, the researchers distributed a questionnaire containing statements about menstruation and dysminorrhea, found 98 students who had menstruated, where 43 were experiencing menstrual pain, they complained of pain in the area around the lower abdomen. different in duration and intensity of pain. Around 12 adolescent girls stated that during menstruation they took pain relievers such as mefenamic acid and most adolescents who did not take the drug were simply left alone. Of the several students who were asked to be interviewed and stated that there had never been any socialization about the handling of dysminorea, they were still unfamiliar with the language of dysminorea.

Based on the background description above, the researcher was interested in lifting the title of the effect of lavender oil aromatherapy on menstrual pain in female students SMPN 18 Pesawaran 2020 year? "

2. Research Methods

This type of research is *a quantitative, quasy experimental* research design with a *one grub pretest and posttest* approach (Notoatmodjo, 2010).

This research was conducted at SMP N 18 Pesawaran. The population in this study were all 98 female students who had menstruated at SMP N 18 Pesawaran. The samples taken in this study were 31 students who experienced dysminorrhea who were found during the study and in accordance with the sample criteria. The sample technique used was *accidental sampling*.

Research instruments are tools that will be used for data collection (Notoatmodjo, 2012). The researcher measured the pain scale using the observation sheet that had been given to the respondent and the respondent filled out the current pain scale with a score of 0-10

3. Results and Discussion

Research Results

- a. Average dysminorrhea pain before being given lavender oil aromatherapy

The results of **table 4.1** can be explained from 31 respondents, the average of dysminorrhea pain before being given lavender oil aromatherapy obtained a pain scale of 5, which is based on the Numeric Scale included in moderate pain.

- b. Mean dysminorrhea pain after being given lavender oil aromatherapy **Table 4.2**

The results of **table 4.2** can be explained from 31 respondents, the average of dysminorrhea pain after being given lavender oil aromatherapy obtained a pain scale of 4 based on the Numeric scale classified as moderate pain.

Bivariate analysis

Based on **table 4.4**, the results of the analysis show that the p-value is $0.000 < 0.05$ so that it is stated that there is an effect of aromatherapy before and after using lavender oil on menstrual pain in students at SMPN 18 Pesawaran in 2020.

Univariate Analysis

- a. **Dysminorrhea Pain Average Before given lavender oil aromatherapy**

Based on data processing, it was found that the average pain of dysminorrhea before being given lavender oil aromatherapy to students obtained a pain scale of 5 with a minimum value of 4 and a maximum value of 7.

The results of research by Maharani et al (2016) entitled the effect of lavender flower aromatherapy (*Lavandula angustifolia*) on the intensity of dysmenorrhea pain in STIKes Madani Yogyakarta

students. This research is a quantitative research with a *quasy experimental* approach. Sampling using *purposive sampling* technique. Statistical test using *paired t-test*, to test the effectiveness of lavender flower aromatherapy on the intensity of dysmenorrhea pain. Most respondents according to age were 18-20 years, namely 60%. The most dysmenorrhea pain characteristics before giving lavender flower aromatherapy was on a moderate pain scale, namely 65%.

Dysmenorrhoea is a complaint that is often felt in society so that it is the most common cause of lost work time or absences from school (Manuaba, 2010). Almost all women experience discomfort during menstruation, such as discomfort in the lower abdomen and usually accompanied by nausea, dizziness, and even fainting (Anurogo and Wulandari, 2011).

The symptom that is most commonly found is abdominal pain such as lower cramps which then spreads to the back (Prawirohardjo, 2008). Pain causes the patient to feel uncomfortable. If the pain is not treated adequately, it will have harmful effects such as *cardiovascular, gastrointestinal, endocrine, and immunologic*. Harmful effects of pain are unpleasant events in their development that affect various components in the body. The effect of pain can affect physical, behavior, and the influence of daily activities (Zakiyah, 2015).

According to the assumptions of the researchers, most respondents with pain were in the moderate category. At this time they can still do activities but it is annoying. Then there were also some respondents who carried out medical treatment and consumed analgesics to reduce their pain. Most of the efforts made by respondents were by resting.

b. The average dysminorrhea pain after being given lavender oil aromatherapy

Based on the results of data processing, it was found that the average pain of dysminorrhea after being given lavender oil aromatherapy to students obtained a pain scale of 4 with a minimum value of 2 and a maximum value of 6.

The results of Aril and Herlin's research (2018) on

the effect of lavender aromatherapy on the intensity of dysmenorrhea in second semester D III Midwifery students at 'Aisyiyah University Yogyakarta. This study used a pre-experimental *design method with one group pretest posttest design*. The number of samples was 20 respondents with *non-probability sampling technique type purposive sampling with data analysis paired t-test*. Before giving lavender aromatherapy, the majority of respondents experienced an intensity of dysmenorrhoea on a scale of 7 as many as 6 respondents (30%). After giving, the majority of respondents experienced dysmenorrhoea intensity scale 3 as many as 6 respondents (30%).

Dysminorrhea is pain during menstruation, usually with a cramping feeling and is concentrated in the lower abdomen. Complaints of pain can vary from mild to severe. The severity of dysminorrhea is directly related to the length and amount of menstrual blood. In general, menstrual pain arises due to dysrhythmic contractions of the myometrium that display one or more symptoms, ranging from mild to severe pain in the lower abdomen, buttocks and spasmodic pain in the medial side of the thigh (Haryono, 2016).

There are many ways that can be done to deal with and cure menstrual pain, the efforts made to reduce pain during menstruation are exercise (gymnastics), warm water compresses, drinking pain relievers, drinking turmeric water, bending position, adequate rest (Haryono, 2016) . Then preventive efforts that can be done by people with menstrual pain, without the need for drugs. Namely the way is to pay attention to the pattern and menstrual cycle, then take steps to anticipate so as not to experience menstrual pain. This step is usually done by those who experience menstrual pain but in conditions that are not severe (Anurogo & Wulandari, 2011).

Treatment for dysminorrhea can be carried out with herbal remedies where WHO has recommended the use of traditional medicine in public health maintenance, prevention and treatment of disease. Herbal remedies that can reduce menstrual pain are cinnamon, soybeans, cloves, turmeric, ginger, oso dresie, and Chinese herbs. You can also use supplements, namely fish oil which contains omega 3 fatty acids which are

useful for preventing the effects of inflammation during menstruation, and vitamin E is good for skin health and prevents aging in the body's cells, it can also reduce menstrual pain by increasing the production of prostaglandin hormones. Doing medical treatment, relaxation where there are 2 kinds of reactions, namely fight or surrender triggered by the hormone adrenaline. In a relaxed state the body also stops the production of the hormone adrenaline and all stress hormones. Doing ipnotherapy and acupuncture (Anurogo & Wulandari, 2011).

One of the treatments that is done is with aromatherapy. Aromatherapy is the use of high concentration essential oils which are extracted from plants and administered by massage, inhalation, mixed into bath water, for compresses; through the mucous membrane in the form of a pessary or suppository and sometimes in its pure form. Although aroma plays an important role in influencing the client's mood, it is actually the chemical substances contained in various types of oil that work pharmacologically, and their work can be improved by the type of method of administration, especially massage (Andrews, 2009).

According to the researchers' assumption there is a decrease in dysminorrhea pain but not too much this can be because the treatment is done only once, if it is repeated during dysminorrhea, it is possible that there is an effect of more pain reduction.

Bivariate Analysis

Based on data processing, it was found that there was an effect of aromatherapy before and after using lavender oil on menstrual pain in students at SMPN 18 Pesawaran in 2020, a p-value of $0.000 < 0.05$.

The research results of Rica Pustikawaty (2016) with the title The Effect of Lavender Aromatherapy on Menstrual Pain Scale for Class X Senior High School 1 Sungai Ambawang Public High School, Kubu Raya Regency, with the results of the research. 8%. After doing lavender aromatherapy, the most pain scale was found in respondents, namely 75% mild pain scale. In the *paired t-test*, it was found that the p value = 0.000.

The main content of lavender flowers is linalool acetate which is the main active ingredient that plays a

role in the anti-anxiety (relaxing) effect of lavender. Lavender oil with its *linalool* content which provides a relaxing effect is one of the aromatherapy oils that are widely used today, either by inhalation (inhaled) or by massage techniques on the skin. Lavender oil has the effect of balancing the body and mind systems. Able to relieve headaches, sadness, bad sleep, also suitable for hair loss, dull hair, head lice, insect bites, sunburn, bad breath, sunburn. Also suitable for reducing high blood pressure, sore muscles, stretching and pain during menstruation. The oil, which is a very multipurpose ingredient, should always be available for both aromatherapy treatments and as a home supply. This oil is very safe and has been traditionally used for thousands of years as a pain reliever, wound healer, and soul balancer (Dewi, 2011).

Lavender oil is one of the safest oils and has strong antiseptic, antiviral and anti-fungal properties. Because it is often used in liniments because it is also believed to accelerate the healing of skin cells that are sunburned, injured and *rash*. Massage or bath with lavender oil is done to increase digestion and immunity. Because of its many properties, lavender oil is one of the most popular oils in aromatherapy (Dewi, 2011).

Lavender oil with its *linalool* content which provides a relaxing effect is one of the aromatherapy oils that are widely used today, either by inhalation (inhaled) or by massage techniques on the skin. Lavender oil has the effect of balancing the body and mind systems. It can relieve headaches, sadness, bad sleep, self-sema, resdung, also suitable for hair loss, dull hair, head lice, insect bites, sunburn, bad breath, sunburn. It is also suitable for reducing high blood pressure, muscle pain, stretching and pain during menstruation (Kania, 2006).

Lavender aromatherapy is aromatherapy derived from lavender flowers that are small and bluish purple and reach 72 m high. This plant grows well in highland areas. The floral aroma is very fragrant, floral, herbal and has an added smell like balsam. Aromatherapy used through the inhalation method will deliver a chemical message which will be transmitted through the *olfactory bulb*. These chemical messages will be sent to the limbic system in the brain. The limbic

system is the center of pain, pleasure, anger, fear, depression, and various other emotions. In the limbic system there is an *amygdale* component that is responsible for our emotional response to smells, while the hippocampus is responsible for memory and recognition of smells as well as a place where chemicals in aromatherapy stimulate our brain's memory storehouses for recognition of smells (Koensoemardiyah, 2009) .

According to the assumptions of researchers, respondents who experienced dysminorrhea on a scale of 7 or experienced a decrease after giving lavender oil. This shows that lavender oil can be effectively applied

to pain intensity, both mild, moderate and severe. As for pain with a decrease of 1-2 scales can be due to a pathophysiological response from each of the respondent's body can be said to experience dysminorrhea due to abnormalities of the reproductive organs.

Thus lavender therapy can be applied to reduce dysminorrhea, this treatment needs to be applied and taught so that it is widely known, especially to adolescents, so that many adolescents take lavender therapy to treat dysminorrhea and are not dependent on pharmacology (analgesic drugs).

Table 4.1 Average dysminorrhea pain before being given lavender oil aromatherapy to students at SMPN 18 Pesawaran in 2020

Dysminorrhoea Pain	N	Mean	Minimum – Maximum
Average dysminorrhea pain before being given lavender oil aromatherapy	31	5	4 - 7

Table 4.2 Average dysminorrhea pain after being given lavender oil aromatherapy to students at SMPN 18 Pesawaran in 2020

Dysminorrhoea Pain	N	Mean	Minimum – Maximum
Average dysminorrhea pain after being given lavender oil aromatherapy	31	4	2 - 6

Table 4.4 The effect of aromatherapy before and after with lavender oil on menstrual pain in students at SMPN 18 Pesawaran in 2020

Dysminorea Pain	Mean	Standard Deviation	SE	P-value	N
Before being given lavender oil	5	0.934	0.168	0.000 (<0.005)	31
After being given lavender oil	4	1.504	0.270		

4. Conclusion and Suggestions

Conclusion

1. The average dysminorrhea pain before being given lavender oil aromatherapy to students at SMPN 18 Pesawaran in 2020, obtained a pain scale of 5 with

- a minimum value of 4 and a maximum value of 7.
2. The average dysminorrhea pain after being given the aromatherapy lavender oil to students at SMPN 18 Pesawaran in 2020, obtained a pain scale of 4 with a minimum value of 2 and a maximum value of 6.

3. There is an effect of aromatherapy before and after with lavender oil on menstrual pain in students at SMPN 18 Pesawaran in 2020, a p-value of 0.000 <0.05.

Suggestions

1. **For young women (female students)**
Respondents can increase their knowledge about handling dysmenorrhea by searching for information via the internet or reading books, so that respondents do not depend on pharmacological treatment alone.
2. **For SMP N 18 Pesawaran** Increase the use of UKS as a medium to broaden students' knowledge by providing posters or leaf templates about health.
3. **For Aisyah Pringsewu University.** The results of the research can be used as information and reference, especially for Aisyah Pringsewu University Midwifery students.
4. **Benefits for Further Researchers** The results of this study can be used as material for the development of further studies in the field of obstetrics regarding lavender oil aromatherapy on menstrual pain using different methodologies, for example by comparison or with a longer time.

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