

Effectiveness of Yoga and Lavender Aromatherapy (YOPI) in Reducing Menstrual Pain in Young Women

L Gusti Agung Manik Karuniadi¹⁾ Luh Putu Widiastini²⁾ Putu Ayu Dina Saraswati³⁾
Email: manikkaruniadi@gmail.com

ABSTRACT

Background: Menstrual pain have an impact on tension, fatigue, and emotional conflict within themselves. Menstrual pain can be treated with pharmacological and non-pharmacological therapy. Providing yoga and aromatherapy which are included in non-pharmacological therapy, not only provide good physical benefits for young women but also affect their psychological condition. The aim of this study is to prove the effectiveness of yoga and lavender aromatherapy (YOPI) in reducing menstrual pain in young women.

Methods: The research design was pre-experimental with a one group pretest-posttest design. The sampling technique in this study was purposive sampling there are 36 young women. Data was analyze by Wilcoxon test.

Results: The pain scale before being given the yoga intervention and lavender aromatherapy was given an average of 3.9 in the moderate pain category. After the intervention was given, there was a decrease in the pain scale to 1.4 in the mild pain category. The Wilcoxon test was used for bivariate analysis of pain before and after intervention because the data were not normally distributed. The results of the bivariate test conducted obtained a p value of 0.000.

Conclusion: Yoga and Lavender Aromatherapy are effective for reducing menstrual pain in young women in Mekarbhuaana Village

Keyword : yoga, lavender aromatherapy, menstrual pain

^{1,2}. *Midwifery Study Program, STIKES Bina Usada Bali MAPINDO Campus Complex, Jl. Padang Luwih, Tegal Jaya, Dalung, Badung*

Received: March 11, 2023; Revised: March 30, 2023; Accepted: March 31, 2023

Background. Menstrual pain (menstrual pain) is pain/ cramps in the abdomen that occurs on the first and second day of menstruation, has a distinctive characteristic, which appears regularly and periodically. Menstrual pain (menstrual pain) is one of the most common disorders that occurs during menstruation in women, both in the adolescent and adult stages, which can have a negative impact on the quality of life of those who experience it (Larasati and Alatas, 2016). In 2013, a total of 1,769,425 people or 90% of women experienced menstrual pain. In a study conducted in England at high school, it was found that 10% of adolescents were absent 1-3 days each month due to menstrual pain. 70-90% of adolescents who experience menstrual pain, have an impact on tension, fatigue, and emotional conflict withinthemselves (Lestari, 2013). Adolescents who experience menstrual pain have a

significant relationship with lower academic achievement compared to adolescents who do not experience menstrual pain (Fajarini *et al.*, 2018).

Menstrual pain is influenced by several factors, including: age at menarche, duration of menstruation, stress (Nurwana, Sabilu and Fachlevy, 2017), nutritional status, family history of menstrual pain, exercise habits (Nurwana, Sabilu and Fachlevy, 2017; Hayati, Agustin and Maidartati, 2020). Low physical activity has a tendency to experience menstrual pain with a moderate pain scale, while those who have high physical activity tend to experience mild menstrual pain (Sugiyanto and Luli, 2020). According to World Health Oragnisation (WHO) data in 2018, globally, women do less physical activity than men.

Someone who does physical activity has a good chemical impact on the body, namely stimulating the production of endorphins, which stimulate feelings of happiness and increase the pain threshold so that sensitivity to pain decreases. Routine physical activity will have a positive impact on blood flow in the body so that it can reduce the scale of pain and cause feelings of happiness (Sumaryoto & Nopembri, 2017). Some physical activities that have a significant effect on menstrual pain include abdominal stretching, pillates exercise, low impact aerobics, and yoga (Gurusinga *et al.*, 2021). Yoga is one of the non-pharmacological therapies to treat menstrual pain.

Menstrual pain can be treated with pharmacological and non-pharmacological therapy. Pharmacological therapy that can overcome menstrual pain is the consumption of drugs including: ibuprofen and mefenamic acid (Anggriani, *et al.*, 2021). Non-pharmacological therapies that can be used to treat menstrual pain are effleurage massage, warm compress therapy, snema, yoga and aromatherapy (Nurfadilah, 2020). Providing yoga and aromatherapy not only provides good physical benefits for young women but also affects their psychological condition. Aromatherapy lavender is one of the aromatherapy that has a significant effect on menstrual pain in adolescents (Natassia and Mulyaningrum, 2021).

Based on the results of a preliminary study conducted by simple interviews with 10 young women in Mekarbhuna Village, it was found that 6 of them had menstrual pain with a moderate pain scale. Based on this, researchers are interested in carrying out research on the effectiveness of Yopi (yoga and aromatherapy) in reducing menstrual pain (menstrual pain) in young women in Mekarbhuna Village, Badung. The purpose of this study was to see the effectiveness of Yopi (Yoga and Aromatherapy) in Reducing Menstrual Pain (Menstrual pain) in Young Women in Mekarbhuna Village, Badung

Methods. The research design was pre-

experimental with a one group pretest-posttest design. The population of this study were all young women who experienced menstrual pain in Mekarbhuna Village in the period March 2022, with a total sample of 36 people.

The sampling technique in this study was purposive sampling, with inclusion criteria being adolescents with primary menstrual pain, willing to be respondents, not currently taking pain medication. Exclusion criteria in this study were young women who were uncooperative and allergic to lavender aromatherapy.

Yoga is given once a week for 4 weeks. The aromatherapy given is lavender aromatherapy by dripping lavender aromatherapy on a cotton pad as much as 2 drops and inhaled 3 consecutive days before the scheduled menstruation until the third day of menstruation for 10 minutes.

The results of the data normality test performed with Shapiro Wilk obtained p values pretest (0.000) and posttest (0.000). Both p values (pretest and posttest) were obtained <0.05, so it can be concluded that the data were not normally distributed. This research has passed an ethical test at the STIKES Bina Usada Bali Health Research Ethics Commission.

Result and Discussion. The number of respondents in this study were 36 young women.

Table 1. Pain scale

Pain Assessment	N	Mean	SD	Sig
Pretest	36	3,9	1,52	0,000
Posttest	36	1,4	0,89	

Based on table 1, the pain scale before being given the yoga intervention and giving lavender aromatherapy was an average of 3.9 in the moderate pain category. After the intervention was given, there was a decrease in the pain scale to 1.4 in the mild pain category. The Wilcoxon test was used for bivariate analysis of pain before and after intervention because the data were not normally distributed. The results of the

bivariate test conducted obtained a p value of 0.000. This p value is less than 0.05, so it can be concluded that Yoga and Lavender Aromatherapy are effective in reducing menstrual pain in young women in Mekar bhuana Village. In the results of this study, the average of young women who experienced menstrual pain before being given intervention was Moderate Pain with a score of 3.9. This is in line with the research conducted (Meinika *et al.*, 2021), who got the average pain score before being given the intervention was 5.2. Pain that occurs during menstruation (menstrual pain) in adolescents is influenced by several factors including menarche at an early age, family history of menstrual pain, abnormal body mass index, fast food consumption habits, duration of bleeding during menstruation, exposure to cigarette smoke, consumption coffee, alexythymia (Larasati and Alatas, 2016), physical activity and depression (Kojo, Kaunang and Rattu, 2021). The physical activity of female adolescents is lower than that of male adolescents (Widiyatmoko and Hadi, 2018). Menstrual pain experienced by young women can have a negative impact on their daily lives. In young women who experience menstrual pain there will be emotional conflict, tension and fatigue which will affect their skills and abilities which include the ability to identify themselves, think logically, socialize, and academic abilities (Lestari, 2013)

Given the magnitude of the impact that can occur if young women cannot overcome their menstrual pain, researchers provide interventions in the form of yoga and giving lavender aromatherapy to achieve a better quality of life for young women who experience it. The results of this study found a decrease in pain scores after being given intervention in the form of yoga and lavender aromatherapy, which previously had an average pain score of 3.9 to an average pain score of 1.4. This result is in line with the results of the study (Pumi Keta *et al.*, 2020) who got data on a decrease in pain scores

which previously had an average of 5.44 to 3.69.

The results of this study are in line with the results of the study (Pumi Keta *et al.*, 2020) who found that there was a significant effect of the combination of yoga and lavender aromatherapy on the level of menstrual pain in young women at the Sumatra Thawalib Parabek Islamic Boarding School with a p value of 0.000. Yoga and lavender aromatherapy are pharmacological techniques that can reduce menstrual pain. Yoga comes from the word "yuj" which means union. The union in question is the union between ourselves and God. Yoga is a combination of movement and breathing. This combination can have a positive impact not only on the physical but also on the psychological side of the adolescents who undergo it. Deep breathing that is done in harmony with yoga movements can cause a feeling of relaxation, this relaxation can create a feeling of comfort, and this can increase tolerance to pain (Muthohharoh, 2018).

Aromatherapy is a therapeutic technique using concentrated essential oils derived from plants that are aromatic. One type of aromatherapy that can be given to reduce pain, especially menstrual pain, is Lavender (Meinika *et al.*, 2021). To be able to make lavender aromatherapy oil, lavender shoots are needed. The effects of lavender aromatherapy, namely increasing calm, balance, a sense of comfort, reducing stress, depression, pain, unbalanced emotions and frustration. Linalool and linalyl acetate are the major constituents of lavender aromatherapy oil. The monoterpenol structure is owned by Linalool which is an alcohol structure characterized by having a hydroxyl chain (-OH) that binds to a terpene structure, where this structure is good as a tonic for the nervous system and stimulates the body's immune response. The nose is a receptor that captures aromatherapy, continues this stimulus to areas of the brain in parts that control emotion and memory and provides information to the hypothalamus which is the

body's internal system, sexuality system, and reaction to stress. The aroma captured by the nose is received by the brain in the spinal cord and stimulates the creation of alpha brain waves triggering relaxation. During a relaxed state, hormones in the body, namely enkephalin and serotonin, are also stimulated to be produced (these hormones play an important role in the analgesia system). Serotonin causes local spinal cord neurons to secrete enkephalin. Enkephalins are thought to induce presynaptic inhibition of type C and type A pain fibers. These fibers may achieve presynaptic inhibition by inhibiting calcium channels in the nerve ending membranes and activating the analgesia system so that it can suppress all or nearly all of the signals passing through the peripheral nerves and reduce to elimination painful (Maharani, Fatmawati and Widyaningrum, 2016).

Conclusion and Suggestions. From the results of this study, it can be concluded that Yoga and Lavender Aromatherapy are effective for reducing menstrual pain in young women. Health workers are expected to be able to provide care to adolescents, especially non-pharmacological therapy in the form of yoga and lavender aromatherapy to reduce menstrual pain

Acknowledgements The researchers be thankful to STIKES Bina Usada Bali, Mekarbhuna Village Officials, Midwives at the Mekarbhuna Village Assistant Health Center and Abiansemal II Public Health Center

References

- Fajarini, Y. *et al.* (2018) 'Prestasi Belajar pada Remaja yang Mengalami Dismenorea Primer', *Jurnal Kesehatan Reproduksi*, 5(1), pp. 24–31. Available at: <https://journal.ugm.ac.id/jkr/article/view/37972> (Accessed: 7 March 2023).
- Gurusinga, S. E. B. *et al.* (2021) 'Literature Review : Hubungan Aktivitas Fisik Dengan Dismenore Primer Pada Remaja', *Jurnal Kedokteran Universitas Palangkaraya*, 1. Available at: <https://ejournal.upr.ac.id/index.php/JK/article/view/2866/2424> (Accessed: 9 March 2023).
- Hayati, S., Agustin, S. and Maidartati (2020) 'Faktor-Faktor Yang Berhubungan Dengan Dismenore Pada Remaja Di SMA Pemuda Banjaran Bandung', *Jurnal Keperawatan BSI*, VIII(1), pp.132–142. Available at: <http://ejournal.ars.ac.id/index.php/keperawatan>.
- Kojo, N. H., Kaunang, T. M. D. and Rattu, A. J. M. (2021) 'Hubungan Faktor-faktor yang Berperan untuk Terjadinya Dismenore pada Remaja Putri di Era Normal Baru', *e-CliniC*, 9(2), pp. 429–436. doi: 10.35790/ECL.V9I2.34433.
- Larasati, T. A. and Alatas, F. (2016) 'Dismenore Primer dan Faktor Risiko Dismenore Primer pada Remaja', *Jurnal Majority*, 5(3), pp. 79–84. Available at: <https://joke.kedokteran.unila.ac.id/index.php/majority/article/view/1040> (Accessed: 7 March 2023).
- Lestari, N. M. S. D. (2013) 'Pengaruh dismenorea pada remaja', in *Prosiding Seminar Nasional MIPA*.
- Maharani, Y. V., Fatmawati, E. and Widyaningrum, R. (2016) 'Pengaruh Aromaterapi Bunga Lavender (Lavandula Angustifolia) Terhadap Intensitas Nyeri Haid (Dismenore) Pada Mahasiswi Stikes Madani Yogyakarta', *Jurnal Kesehatan Madani Medika (JKMM)*. doi: 10.36569/JMM.V7I1.71.
- Meinika, H. *et al.* (2021) 'Perbedaan Pemberian Aromaterapi Lemon dan Aromaterapi Lavender terhadap Nyeri haid (Dismenore) pada Remaja Putri di Wilayah Kerja Puskesmas Kuala Lempuing Kota Bengkulu Tahun 2021'.
- Muthohharoh, L. (2018) 'Yoga Untuk Pengurangan Intensitas Nyeri Dismenorea', *Jurnal Ilmiah Kesehatan Ar-Rum Salatiga*, 3(1), pp. 41–44.
- Natassia, K. and Mulyaningrum, F. M. (2021) 'The Effect of Lavender Aromatherapy on Menstrual pain in Adolescents',

- Jurnal Profesi Bidan Indonesia*, 1(02), pp. 26–33. Available at: <https://pbijournal.org/index.php/pbi/article/view/14> (Accessed: 9 March 2023).
- Nurfadilah, A. (2020) 'Literature Review : Penatalaksanaan Non Farmakologi Untuk Mengurangi Nyeri Dismenore Pada Remaja Putri'. Available at: <http://localhost:8080/xmlui/handle/123456789/1053> (Accessed: 9 March 2023).
- Nurwana, N., Sabilu, Y. and Fachlevy, A. (2017) 'Analisis Faktor Yang Berhubungan Dengan Kejadian Disminorea Pada Remaja Putri Di Sma Negeri 8 Kendari Tahun 2016', *Jurnal Ilmiah Mahasiswa Kesehatan Masyarakat Unsyiah*, 2(6), p. 185630
- Pumi Keta, D, et al (2020) "Pengaruh Kombinasi Yoga dan Aromaterapi Lavender Terhadap Tingkat Nyeri Dismenorea pada Remaja Putri di Pondok Pesantren Sumatera Thawalib Parabek" *Maternal Child Health Care*, 2 (2), pp. 330-341. Doi: 10.32883/MCHC.V212.1046
- Sugiyanto, S. and Luli, N. A. (2020). 'Hubungan Aktivitas Fisik dengan Tingkat Dismenore pada Siswi Kelas XII SMK Negeri 2 Godean Sleman Yogyakarta', *Proceeding of The URECOL*, pp. 7–15
- Sumaryoto & Nopembri, S. (2017) *Pendidikan Jasmani, Olahraga, dan kesehatan Kelas XI SMA*. SMK/MA/MK. Jakarta: Pusat Kurikulum dan Perbukuan, Balitbang, Kemendikbud.
- Widiyatmoko, F. and Hadi, H. (2018) 'Tingkat Aktivitas Fisik Siswa di Kota Semarang', *Journal Sport Area*, 3(2). P.140