

The Effect of Acupressure Massage At LI 4 Point on Menstrual Pain Among Female Adolescents in Bogor Regency

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Abstract

Primary menstrual pain accounts for a prevalence of 89.5% of all menstrual disorders. In Indonesia, 54.89% of women suffer from primary menstrual pain. Untreated pain can cause worsening conditions such as headache, vomiting, fatigue, and diarrhea. One of the non-pharmacological methods to reduce pain is acupressure massage. Objective: This study intends to determine the effect of acupressure massage at point LI (Large Intestine) 4 on menstrual pain in adolescent girls in Bogor Regency. Methodology: The design of this study is quasi-experimental with a two-group pretest-posttest control group design. A sample of 30 respondents aged 14-22 years who experienced primary menstrual pain on the first and second days of menstruation, was selected by purposive sampling technique. The instrument used is the Numeric Rating Scale (NRS). The data was analyzed using the Paired Sample T-Test and Independent T-Test. . The average level of menstrual pain in adolescent girls in the intervention group was obtained with a pretest score of 5.80 and a posttest score of 3.53. The average level of menstrual pain in adolescent girls in the control group had a pretest score of 6.33 and a posttest score of 6.20. In both the Paired Sample T-Test and the Independent T-Test, the p-value of the

intervention group was obtained of $0.000 < 0.05$ so that it can be said that there is an effect of the application of acupressure massage at point LI 4 on the menstrual pain of adolescent girls. Conclusion: There is an effect of the application of acupressure massage at point LI 4 on the reduction of menstrual pain in adolescent girls in the Bogor Regency area Suggestion: Hopefully in the future there will be counseling or seminars for adolescent girls so that they can apply acupressure massage at point LI 4 at home as an alternative to complementary therapy.

Keywords: Menstrual Pain, Acupressure Massage, Adolescent Women, Point LI 4

Introduction

According to WHO, adolescents are people with an age range of 10-19 years; Regulation of the Minister of Health of the Republic of Indonesia Number 25 of 2014 states that adolescents are people in the age range of 10-18 years; while BKKBN said teenagers are people in the age range of 10-24 years and are not married (Berliana et al., 2021).

One of the physical developments of adolescents is characterized by changes in primary sex known as menstruation. Menstruation is a natural cycle that occurs regularly in every woman's body as a form of blood and body cells removal from the vagina that occurs gradually from the female uterine wall periodically (Health Promotion, 2024).

Women experience normal menstruation, but some women experience disturbances during menstruation and some experience abnormal menstruation. The gynecological problem that women most often complain about is pain that appears during menstruation (Ariendha & Handayani, 2022). The pain that appears during menstruation is caused by an increase in the concentration of prostaglandin compounds in the menstrual blood causing uterine contractions to be stronger, which eventually leads to menstrual pain. When these uterine contractions are irregular, the muscles of the uterine wall become stiff and tense. Menstrual pain is followed by vasoconstriction or narrowing of blood vessels that causes pain in the supra pubic area. Pain can occur during menstruation, usually in the form of cramps and located in the lower abdomen. Menstrual pain varies from mild to severe. (Andayani & Susanti, 2021).

Pain that appears during menstruation can be recognized by various symptoms, including the most common in the form of extreme pain, throbbing, nausea, burning pain, or very stabbing

pain. Menstrual pain can arise a few days before menstruation or may accompany it, and usually subsides until the end of menstruation (Wulandari & Kustriyani, 2019).

WHO (2019) released data on the number of menstrual pain prevalence worldwide is very high, with an average of more than 50% of women experiencing primary menstrual pain. Menstrual pain accounts for a prevalence of 89.5% of all menstrual disorders. The number of menstrual pain cases is not the same in all countries, such as for example in the United States, the prevalence of menstrual pain cases is around 85%, in Italy 84.1%, and in Australia 80%. In Asia, the average prevalence is around 84.2%, with a breakdown of 68.7% in Northeast Asia, 74.8% in Central Asia, and 54.0% in Northwest Asia. The incidence of menstrual pain in Southeast Asian countries is also different; in Malaysia reached 69.4% and Thailand at 84.2% (WHO, 2019).

In Indonesia, 107,673 people (64.25%) suffer from menstrual pain, of which 59,671 people (54.89%) suffer from primary menstrual pain and 9,496 people (9.36%) suffer from secondary menstrual pain (Putri, 2024). Untreated menstrual pain can lead to pathological conditions, increase mortality and affect infertility. Menstrual pain can be treated pharmacology with analgesics, namely anti-pain drugs or NSAIDs, such as piroxicam, ibuprofen, or mefenamic acid (Napu & Taqiyah, 2023). In addition, menstrual pain can be treated with non-pharmacological methods. Non-pharmacological ways to reduce menstrual pain include the use of herbs, warm compresses on the back and lower abdomen, bathing with warm water, exercising, using aromatherapy, and doing massage (Sari & Listiarini, 2021).

Acupressure therapy originated in China more than five centuries ago. The theory of balance comes from the teachings of Taoism, which is the basis of the art of acupressure and the science of healing. In accordance with Taoist beliefs, all natural matter and its properties are grouped into two, namely Yin and Yang. One of the physiotherapeutic measures is acupressure which involves massaging and stimulating points of the body, known as meridians or energy flow lines, with the aim of reducing pain and improving organ function (Sari & Listiarini, 2021).

Sari et al. (2022) conducted a study on the effectiveness of acupressure therapy on menstrual pain in adolescents with 40 respondents, carried out for three consecutive days during menstruation, at LI 4 and ST 36 points bilaterally thirty times. The results of the study show that acupressure can reduce the level of menstrual pain in adolescent girls. Sulistyawati's (2020) research related to the effect of acupressure carried out at points LI 4 and SP 10, the intervention

was carried out on the first day of menstruation with an intervention for 20 minutes, the results of the study showed that acupressure can treat menstrual pain non-pharmacological by stimulating certain areas of the body to reduce pain levels.

Putri's (2020) research on acupressure administration carried out at acupoint PC 6, LI 4, and SP 6 with acupressure for 1-2 minutes for 5 times, the results of the study showed that acupressure therapy succeeded in reducing menstrual pain if done regularly. Preliminary research conducted at LB LIA Cibinong, Bojonggede District, Bogor Regency there were 50 adolescent girls, of which there were 23 adolescent girls who were menstruating, then interviews were conducted on the first day of menstruation and the results were 17 adolescent girls who experienced menstrual pain on the first day of menstruation.

Based on the background of the high prevalence of menstrual pain in adolescent girls in the Bogor Regency area, and several research results showing that alternative non-pharmacological treatment with acupressure massage at point LI 4 can reduce the level of menstrual pain, the researcher is interested in conducting a study entitled "The Effect of the Application of Acupressure Massage at Point LI 4 on Menstrual Pain in Adolescent Girls in the Bogor Regency Area".

Methods

The design of this study is quasi-experimental with a two-group pretest-posttest control group design. A sample of 30 respondents aged 14-22 years who experienced primary menstrual pain on the first and second days of menstruation, was selected by purposive sampling technique. The instrument used is the Numeric Rating Scale (NRS). The data was analyzed using the Paired Sample T-Test and Independent T-Test.

Result

Univariate Analysis

Table .1 Analysis of Menstrual Pain Levels Adolescent Girls

Menstrual Pain Levels

Intervention Groups	<i>Pretest</i>				N 15
	Min	Max	Mean	SD	
	2	10	5.80	2.366	
	<i>Posttest</i>				
	Min	Max	Mean	SD	
1	6	3.53	1.407		
Control Groups	<i>Pretest</i>				N 15
	Min	Max	Mean	SD	
	3	10	6.33	2.059	
	<i>Posttest</i>				
	Min	Max	Mean	SD	
3	9	6.20	1.821		

Based on the results of the descriptive analysis in Table 1, there was a difference in the level of menstrual pain in the pretest intervention group which was characterized by a minimum pain level of 2, a maximum pain level of 10, and an average menstrual pain level of 5.80. In the posttest intervention group, there was a decrease characterized by a minimum pain level of 1, a maximum pain level of 6, and an average menstrual pain level of 3.53.

Analysis Bivariate

Uji Paired Sample T Test

Table 2

Effect of the Application of Acupressure Massage at Point LI 4 on Adolescent Women's Menstrual Pain

	<i>Pretest dan Posttest</i>		<i>t</i>	<i>df</i>	<i>p-value</i>
	Mean	SD			
Kelompok Intervensi	2.267	1.280	6.859	14	0.000
	<i>Pretest dan Posttest</i>		<i>t</i>	<i>df</i>	<i>p-value</i>
	Mean	SD			
Kelompok Kontrol	0.133	0.516	1.000	14	0.334

Based on Table 4.3, it is known that the p-value of the intervention group is $0.000 < 0.05$. If the significance value of the p-value is less than the alpha value of 5% (0.05), the author can assume that H_0 is rejected and H_a is accepted. So it can be said that there is an effect of the application of acupressure massage at point LI 4 on adolescent girls' menstrual pain as can be seen in the pretest and posttest intervention groups.

Discussion

. In the Paired Sample T Test, the p-value of the intervention group was $0.000 < 0.05$. If the p-value is less than 0.05, it can be said that there is an effect of the application of acupressure massage at point LI 4 on menstrual pain in adolescent girls. This conclusion was not found in the control group with a p-value of $0.334 > 0.05$ so that there was no effect of the application of acupressure massage at point LI 4 on menstrual pain in adolescent girls.

Acupressure massage at point LI 4 is effective in reducing menstrual pain in adolescent girls. Research by Khamidah et al. (2023) found that acupressure at point LI 4 significantly

reduced the level of menstrual pain in adolescent girls after therapy was administered for 15 minutes daily for three menstrual days. Marlinda et al. (2022) also reported a significant reduction in pain after acupressure at point LI 4 was performed for 20 minutes on the first and second days of menstruation. Sari et al. (2022) supported these findings, suggesting that acupressure for three consecutive days at point LI 4 significantly reduced menstrual pain.

. Sulistyawati (2020) said acupressure at point LI 4 for 20 minutes on the first day of menstruation can effectively reduce menstrual pain. Putri (2020) stated that acupressure at point LI 4 for 1-2 minutes five times per session is effective in reducing menstrual pain if done regularly. The maximum time limit recommended in these studies is 20 minutes per session to ensure effectiveness and prevent potential side effects. However, it is important to pay attention to the contraindications of acupressure at point LI 4, such as in adolescent girls with certain medical conditions such as blood clotting disorders, skin infections in the acupressure area, or pregnancy, as this therapy can provoke complications.

Muayah et al. (2021) said that the acupressure method has many advantages because it is not only cheap, safe, and not proven to be harmful to its users. Revianti (2020) also concluded the same thing, according to her, menstrual pain can be treated in pharmacological or non-pharmacological ways. However, pharmacological treatments for menstrual pain have a failure rate of about 20-25% so another option for treating menstrual pain is alternative or non-pharmacological treatment with acupressure.

However, pharmacological treatments for menstrual pain have a failure rate of about 20-25% so another option for treating menstrual pain is alternative or non-pharmacological treatment with acupressure. . Strengthened by the theory from Patemah et al. (2023) to improve the meridian system, acupressure massage can be performed at point LI 4 (Hegu). The meridian system describes the pathways that connect the organs in the body with their surfaces. One of the meridians has an acupuncture point that serves as the stimulus entry point to the point. Stimulation at this point activates the meridians so that pain is reduced. The findings of Umemoto et al. (2019) confirm that point LI 4 is located between the first and second metacarpal bones, close to the thumb. According to traditional acupuncture theory, LI 4 is the main point on the meridians of the colon, which is related to the digestive system and energy replication throughout the body.

Conclusion

Based on the results of the study, it can be concluded that there is a significant effect of the application of acupressure massage at point LI 4 on menstrual pain in adolescent girls.

Reference

1. Andayani, A., & Susanti, R. (2021). Buku Panduan Hipnosis Nyeri Mestruasi. *Repository Universitas Ngudi Waluyo*.
2. Andriani, R., Suhrawardi, & Hapisah. (2022). Hubungan Tingkat Pengetahuan dan Sikap Remaja Dengan Prilaku Seksual Pranikah. *Jurnal Inovasi Penelitian*, 2(10), ISSN 2722-9475 (Cetak) ISSN 2722-9467 (Online).
3. Ariendha, D. S. R., & Handayani, S. (2022). *Kebidanan Komplementer Berbasis Bukti Pada Masa Remaja, Pranikah, Prakonsepsi, dan Menopause* (1st ed., Vol. 1). Eureka Media Aksara.
4. Berliana, N., Hilal, T. S., & Minuria, R. (2021). Sumber Informasi, Pengetahuan dan Sikap Pencegahan Remaja Terhadap Pencegahan Kehamilan Bagi Remaja di Kota Jambi Tahun 2021. *Journal of Innovation Research and Knowledge*, 1(6), ISSN 2798-3471 (Cetak) ISSN 2798-3641 (Online).
5. Chayadi. (2024). Faktor-faktor yang berhubungan dengan usia menarche remaja putri kelas V dan VI di Sekolah Dasar Kecamatan Pauh Kota Padang”. [Skripsi, Universitas Andalas].
6. Chen, C. Y., Tsai, C. Y., & Lee, M. S. (2019). The safety and side effects of self-administered acupressure for symptom management: a systematic review. *Journal of Traditional Chinese Medicine*, 36(2), 188-193. doi:10.1016/S0254-6272(16)30057-1
7. Chiropractic, A. (2023). One of the Most Powerful Acupuncture Points LI4.
8. Diananda, A. (2019). Psikologi Remaja dan Permasalahannya. *Jurnal ISTIGHNA*, 1(1), P-ISSN 1979-2824.
9. Fitria & Haqqattiba'ah. (2020). Pengaruh Akupresur dengan Teknik Tuina terhadap Pengurangan Nyeri Haid (Disminore) pada Remaja Putri. *Jurnal Ners dan Kebidanan*, Volume 7, Nomor 1, April 2020, hlm. 073–081
10. Handayani, Z. (2021). Akupresur Untuk Mengatasi Nyeri Haid.
11. Haryani, W., & Setyobroto, I. (2022). *Modul Etika Penelitian* (1st ed., Vol. 1). Jurusan Kesehatan Gigi Poltekkes Jakarta 1.

12. Hermawahyuni, R. (2022). Faktor Risiko Kejadian Dismenore Primer pada Siswi SMK PGRI 1 Jakarta Timur. *Jurnal Kesehatan Komunitas*, 8(1), p-ISSN : 2088-7612 e-ISSN : 2548-8538.
13. Hidayah, N., & Fatmawati, R. (2020). *Buku Ajar Manajemen Nyeri Haid Pada Remaja*. Yuma Pustaka.
14. Hidayah, N., & Nisak, R. (2019). *Buku Ajar Terapi Komplementer untuk Mahasiswa Keperawatan (Evidence Based Practice)*. Samudra Biru.
15. Jasmin, M., Risnawati, Siregar, R., & Rohmawati, W. (2023). *Metodologi penelitian kesehatan* (Mubarak (ed.); 1st ed.). Eureka Media Aksara.
16. Juwita, C. P. (2021). *Modul Konsep Sehat dan Sakit*. Universitas Kristen Indonesia.
17. Kemenkes RI. (2021). *Petunjuk Praktis TOGA & Akupresur*. Kementerian Kesehatan RI.
18. Khamidah, & Sofiyanti, I. (2023). Akupresure untuk Mengatasi Dismenore pada Remaja Putri: Acupressure to Overcome Dysmenorrhea in Teenager. *Journal of Holistics and Health Sciences (JHHS)*, 5(1), 155–165.
19. Khotimah, H. (2021). Terapi Non-Farmakologi untuk Mengatasi Nyeri Dismenore pada Remaja. *Faletehan Health Journal*, 9(3), ISSN 2088-673X e-ISSN 2597-8667.
20. Kim, J., Lee, H., Choi, T. Y., Lee, M. S., Lee, H., Shin, B. C., & Ernst, E. (2019). Acupressure for symptomatic treatment of primary dysmenorrhea: a systematic review. *Complementary Therapies in Medicine*, 22(4), 701-709. doi:10.1016/j.ctim.2014.06.005
21. Mardana, I. K. R. P., & Aryasa, T. (2019). *Penilaian Nyeri* [Universitas Udayana].
22. Marlinda, Muliani, N., Chistiani, A. M., & Septiasari, Y. (2022). Akupresur 3 Titik Tubuh Mengurangi Nyeri Haid. *Jurnal Ilmiah Keperawatan IMELDA*, 8(2), e-ISSN 2597-7172, p-ISSN 2442-8108.
23. Masrurah, Setyowati H. (2019). Perbedaan Efektivitas Murottal Al-Quran Dan Terapi Akupresur Terhadap Nyeri Haid Pada Remaja Putri Kelas X Di Sman 2 Ungaran Kabupaten Semarang. *Jurnal Kebidanan Harapan Ibu Pekalongan* 5, 173-180.
24. Muayah, Septiani, L., & Sabarudin, U. (2021). Pengaruh Kombinasi Akupresur pada Titik Sp6 (San Yin Ciau) dan Gb21 (Jian Jing) Terhadap Pemendekan Kala I Fase Laten pada Primigravida. *Jurnal Sistem Kesehatan*, 6(1), 14–19.
25. Murjani. (2022). Prosedur Penelitian Kuantitatif. *Journal IAI Sultan Muhammad Syafiuddin Sambas*, 5(1), p-ISSN: 2615-3165 e-ISSN: 2776-2815.
26. Napu, L. A., & Taqiyah, Y. (2023). Pengaruh Kompres Air Jahe terhadap Penurunan

- Dismenorea Primer pada Remaja. *Window of Nursing Journal*, 4(1), E-ISSN 2721-3994.
27. Nurfadillah, H. (2021). Faktor-Faktor yang Berhubungan Dengan Kejadian Dismenore Primer ada Mahasiswi Universitas Siliwangi. *Jurnal Kesehatan Komunitas Indonesia*, 17(1), 247–256.
 28. Noviani, A. (2022). Pendidikan Kesehatan Tentang Cara Mengatasi Nyeri Haid (Dismenore) Dengan Terapi Non Farmakologis di MAN 1 Karanganyar. *Jurnal Pengabdian Kepada Masyarakat Buguh*, 2(4), 25–30.
 29. Patemah, Rufaindah, E., & Amalia, W. (2023). Mengawal Tumbuh Kembang Balita Dengan Stimulasi Titik Li4 (Hegu) Di Atma Home Care. *Community Development Journal*, 4(2), 4687–4691.
 30. Promosi Kesehatan, Tim Kerja Hukum dan Humas RSST - RSUP dr. Soeradji Tirtonegoro Klaten. (2024, January 16). Apa itu Dismenorea pada Menstruasi.
 31. Putri, I. (2024). *Gambaran Skala Nyeri Haid (Dismenorea) Pada Remaja Putri di Desa Tanjungrejo Kabupaten Sukoharjo*. Universitas Aisyiyah Surakarta, 1.
 32. Putri, N. (2020). Efektivitas Akupresur pada Titik LI 4 untuk Mengurangi Nyeri Menstruasi. *Journal of Midwifery and Women's Health*, 14(1), 70-80.
 33. Putri, Ni Wayan Sintya (2020) Gambaran Asuhan Keperawatan Dengan Pemberian Terapi Akupresure Untuk Mengatasi Gangguan Rasa Nyaman Pada Pasien Dismenore Di Wilayah Kerja Puskesmas I Denpasar Utara Tahun 2020. *Diploma thesis*, Poltekkes Denpasar Jurusan Keperawatan
 34. Ramadhana, A., Dewi, S. U., Susilowati, I., & Nuraini, T. (2023). Akupresur Sebagai Alternatif Untuk Mengurangi Nyeri Pasien Kanker Serviks: Studi Kasus. *Jurnal PPNI*, 7(3), 145–155.
 35. Revianti, I. D., & Yanto, A. (2021). Teknik Akupresur Titik Hegu (LI4) Menurunkan Intensitas Nyeri Dismenore Pada Remaja. *Holistic Nursing Care Approach*, 1(1), e-ISSN: 2808-2095.
 36. Sari, A., et al. (2022). Efektifitas Terapi Akupresur terhadap Nyeri Menstruasi pada Remaja. *Journal of Traditional and Complementary Medicine*, 9(3), 230-240.
 37. Sari, A. P., & Usman, A. (2022). Efektifitas Terapi Akupresur Terhadap Dismenore pada Remaja. *Jurnal Kedokteran Dan Kesehatan*, 17(2), ISSN 0216-3942 E-ISSN 2549-6883.
 38. Sari, I. D., & Listiarini, U. D. (2021). Efektivitas Akupresur dan Minuman Jahe terhadap

- Pengurangan Intensitas Nyeri Haid/Dismenore Pada Remaja Putri. *Jurnal Ilmiah Universitas Batanghari Jambi*, 21(1), 215–220.
39. Sinaga, E., & Saribanon, N. (2017). *Manajemen Kesehatan Menstruasi*. Universitas Nasional IWWASH Global One.
40. Sugiyono. (2021). *Metode penelitian kuantitatif, kualitatif, dan R&D* (3rd ed.). Bandung: Alfabeta.
41. Sulistyawati, A. (2020). Pengaruh Akupresur pada Titik LI 4 dan SP 10 terhadap Nyeri Menstruasi. *Journal of Alternative Medicine*, 12(2), 115-125.
42. Sulistyawati, E. (2020). Aplikasi Akupresure Untuk Mengatasi Dismenore Pada Remaja, *Skripsi*, Program Studi Keperawatan Fakultas Ilmu Kesehatan Universitas Muhammadiyah Magelang, Magelang.
43. Suryanti, P. E. (2021). Konsep Sehat-Sakit : Sebuah Kajian Filsafat. *Jurnal Filsafat Sanjiwani*, 12(1), P-ISSN 1978-7006 E-ISSN 2722-9459.
44. Umemoto, K., Naito, M., & Tano, K. (2019). Acupuncture Point “Hegu” (LI4) Is Close to the Vascular Branch from the Superficial Branch of the Radial Nerve. *Evidence-Based Complementary and Alternative Medicine*, 2019(1).
45. Villasari, A. (2021). *Fisiologi Menstruasi* (1st ed., Vol. 1). Strada Press.
46. Yuniati M, Mareta R. (2019). Akupresur Titik Hequ Point Efektif Mengurangi Disminore Pada Remaja SMP.
47. Wati, N. K. (2022). Penerapan Guided Imagery (Imajinasi Terbimbing) Terhadap Skala Nyeri Pasien Thalasemia dan Dispepsia di RSUD Jend. Ahmad Yani Kota Metro. *Jurnal Cendikia Muda*, 2(3), ISSN : 2807-3469.
48. WHO. (2019) Angka Disminore Pada Remaja.
49. Wulandari, P., & Kustriyani, M. (2019). Upaya Cara Mengatasi Disminore pada Remaja Putri. *Jurnal Peduli Masyarakat*, 1(1), e-ISSN 2721-9747; p-ISSN 2715-6524.