



Article

Effectiveness of Local Acupuncture Points, LI11 Quchi, and LI4 Hegu Combined with Melaleuca Green Smoothies Facial Moisturizer on Lesion Severity in Acne Vulgaris Cases at Enkla Acupuncture Clinic Tangerang

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SUBMISSION TRACK

Received: January 15, 2026
Final Revision: July 14, 2026
Available Online: October 25, 2026

KEYWORDS

Acne vulgaris, acupuncture, Melaleuca Green Smoothies moisturizer, Hegu, Quchi.

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ABSTRACT

Acne vulgaris is a common inflammatory skin disorder that predominantly affects young adults and may cause psychosocial distress. Limitations of conventional treatments have increased interest in complementary therapies, including acupuncture and herbal-based topical agents. This study aimed to evaluate the effectiveness of local acupuncture at LI11 (Quchi) and LI4 (Hegu) combined with Melaleuca Green Smoothies facial moisturizer compared with acupuncture alone in reducing acne lesion severity. This quasi-experimental pre-test and posttest study involved 60 participants with acne vulgaris treated at the Enkla Acupuncture Clinic, Tangerang. Participants were divided into two groups: acupuncture alone and acupuncture combined with Melaleuca Green Smoothies facial moisturizer. Acne severity was assessed using the Global Acne Grading System (GAGS) before and after 12 treatment. The results demonstrated improvement in both groups; however, a statistically significant difference was observed between the two interventions ($p = 0.013$), with a greater reduction in lesion severity in the combination group. In conclusion, local acupuncture combined with Melaleuca Green Smoothies facial moisturizer is more effective than acupuncture alone in reducing acne vulgaris lesion severity.

I. INTRODUCTION

Acne vulgaris imposes a substantial burden, particularly during the first to third decades of life, and may trigger disturbances such as anxiety and reduced self-confidence, thereby negatively affecting quality of life. Individuals with acne vulgaris

are also frequently associated with psychological comorbidities, including anxiety, depression, anger, and dissatisfaction with self-image ⁽¹⁾.

The severity of acne vulgaris can be assessed objectively and consistently using the Global Acne Grading System (GAGS), which evaluates both the number

and types of lesions across different anatomical regions of the face and body ⁽²⁾.

Acne vulgaris represents a significant public health concern, especially among individuals aged 12–25 years, with prevalence rates in Indonesia reported to reach 87.5% ⁽³⁾. Beyond cutaneous manifestations, the condition is associated with substantial psychosocial consequences, including anxiety and impaired quality of life ⁽⁴⁾. The etiology of acne vulgaris is multifactorial, involving follicular obstruction related to hormonal activity, genetic predisposition, and bacterial colonization, particularly by *Propionibacterium acnes* ⁽⁵⁾. Although conventional treatments such as benzoyl peroxide and antibiotics are commonly used, their effectiveness may be limited by adverse effects and the risk of antimicrobial resistance, prompting increased interest in safer complementary and alternative therapies.

Clinical data from the Enkla Acupuncture Clinic in Tangerang indicate a consistently high patient load, with approximately 50–57 acne vulgaris cases per month during the period of April to June 2025. Previous studies have demonstrated the efficacy of acupuncture in acne management, both systemically through hormonal regulation and stress modulation ⁽⁶⁾, and locally via stimulation of ashhi points, which promotes tissue repair through mechanisms involving transforming growth factor beta-1 (TGF- β 1) and collagen synthesis ⁽⁷⁾. In particular, stimulation of acupoints LI4 (Hegu) and LI11 (Quchi) has been shown to reduce acne lesion severity ⁽⁸⁾.

In addition, topical herbal therapies containing tamanu oil and tea tree oil, as formulated in Melaleuca Green Smoothies facial moisturizer, have demonstrated antibacterial activity against *P. Acnes* as well as anti-inflammatory effects, with minimal risk of skin irritation ⁽⁹⁾. Previous evidence also suggests that combining acupuncture with tamanu oil application may accelerate lesion healing ⁽¹⁰⁾. Based on this rationale, the present study aimed to evaluate the

effectiveness of combination therapy consisting of local acupuncture at LI11 (Quchi) and LI4 (Hegu) and Melaleuca Green Smoothies facial moisturizer in reducing acne lesion severity among patients with acne vulgaris at the Enkla Acupuncture Clinic in Tangerang.

II. METHODS

This study employed a quantitative approach using a Quasi-Experimental Pretest-Posttest Design to evaluate the impact of an intervention by comparing outcomes between a treatment group and a control group. The target population comprised patients with acne vulgaris at the Enkla Acupuncture Clinic in Tangerang, from whom a purposive sample of 60 female participants aged 18–40 years was selected based on predefined inclusion and exclusion criteria to ensure suitability and safety.

Participants were assigned to two groups: Group I received acupuncture alone, while Group II received acupuncture combined with Melaleuca Green Smoothies facial moisturizer. The study protocol began with a baseline assessment using the Global Acne Grading System (GAGS), followed by 12 acupuncture sessions administered twice weekly. Each session lasted 30 minutes and targeted the local acupuncture points LI4 (Hegu) and LI11 (Quchi). In addition, participants in Group II applied the facial moisturizer after each session. A post-intervention assessment was conducted following completion of the treatment protocol. All procedures were performed in accordance with a standardized operating procedure to ensure consistency and safety.

Data were collected using observation sheets and photographic documentation of acne lesions and analyzed using SPSS software. Univariate analysis was performed to describe sample characteristics, while bivariate analysis began with the Shapiro–Wilk normality test. Based on data distribution, the appropriate statistical test either the paired t-test or the Mann–

Whitney U test was applied to compare GAGS scores before and after the intervention and to evaluate treatment effectiveness.

III. RESULT

This chapter presents the findings of a study conducted at the Enkla Acupuncture Clinic in Tangerang from August 11 to November 8, 2025, involving 60 subjects diagnosed with acne vulgaris who were divided into two equal groups.

Table 1. Characteristics of Respondents

Characteristics	Group I		Group II	
	n	%	n	%
Gender				
Female	21	70.0	23	76.7
Male	9	30.0	7	23.3
Age (years)				
18-24	21	70.0	18	60.0
25-31	6	20.0	8	26.7
32-40	3	10.0	4	13.3
Occupation				
Student	13	43.3	14	46.7
Office Worker	11	36.7	10	33.3
Housewife	6	20.0	6	20.0
Syndrome Differentiation				
Wind-Heat	17	56.7	17	56.7
Damp-Heat	8	26.7	9	30.0
Phlegm Accumulation	5	16.7	4	13.3
Acne Severity Grade (Pretest)				
1-18 (Mild)	5	16.7	14	46.7
19-30 (Moderate)	14	46.7	10	33.3
31-38 (Severe)	11	36.7	6	20.0
>39 (Very Severe)	-	-	-	-
Acne Severity Grade (Posttest)				
1-18 (Mild)	16	53.3	25	83.3
19-30 (Moderate)	11	36.7	5	16.7
31-38 (Severe)	3	10.0	-	-
>39 (Very Severe)	-	-	-	-

Table 1 presents the baseline characteristics of participants in Group I and Group II. In both groups, female participants predominated over males. Most participants were aged 18–24 years, followed by those aged 25–31 years and 32–40 years. The majority of participants in both groups were students, followed by office workers and housewives. Regarding syndrome differentiation, Wind-Heat was the most prevalent pattern in both groups,

followed by Damp-Heat and Phlegm Accumulation. Prior to the intervention, most participants in Group I exhibited moderate to severe acne, whereas participants in Group II predominantly presented with mild to moderate acne. Following the intervention, both groups demonstrated improvements in acne severity, as reflected by an increased proportion of participants classified as having mild acne and a corresponding reduction in moderate and severe cases.

Table 2. Normality Test

Group		n	p
Group I	Pretest	30	0.164
	Posttest		0.038
Group II	Pretest	30	0.002
	Posttest		0.008

According to Table 2, the Shapiro–Wilk test indicated that in the acupuncture group, pretest data were normally distributed ($p = 0.164$), whereas posttest data were not normally distributed ($p = 0.038$). In the combination group, both pretest ($p = 0.002$) and posttest ($p = 0.008$) data showed non-normal distributions. Therefore, the overall dataset was considered non-normally distributed, and subsequent statistical analyses were conducted using non-parametric tests.

Table 3. Mann Whitney U Test

Group	Mean Rank	p
Group I	24.90	0.013
Group II	36.10	

The results of the Mann-Whitney U test in Table 3 show a p -value = 0.013 ($p < 0.05$), indicating a significant difference in the change of Acne Vulgaris lesion severity between the two groups. The higher mean rank value in the combination group signifies that the reduction in lesion severity was greater compared to the acupuncture-only group. Thus, acupuncture therapy combined with the Melaleuca Green Smoothies moisturizer provides better effectiveness in reducing the degree of Acne Vulgaris lesions.

IV. DISCUSSION

The majority of participants in both groups were female. This finding is consistent with previous literature indicating that women are more susceptible to acne vulgaris due to hormonal fluctuations associated with the menstrual cycle. In addition, the frequent use of cosmetic products, particularly those with comedogenic potential, may further increase the risk of comedone formation and inflammatory facial lesions ⁽¹¹⁾.

Most participants were aged 18–24 years, which represents the age group most commonly affected by acne vulgaris. During young adulthood, increased androgen levels stimulate sebaceous gland activity, leading to excessive sebum production. This condition promotes follicular obstruction and creates a favorable environment for acne development ⁽¹²⁾.

The majority of participants were university students, a demographic that overlaps with the young adult age group and is therefore inherently more prone to acne vulgaris. This susceptibility may be exacerbated by academic stress and irregular lifestyle patterns, which can disrupt hormonal balance and sebum production ⁽¹³⁾. Office workers also constituted a substantial proportion of participants. Occupational stress, prolonged exposure to air-conditioned environments that may dry the skin, and routine cosmetic use can contribute to dysregulation of skin oil production, thereby increasing acne risk ⁽¹⁴⁾.

Regarding syndrome differentiation, Wind-Heat was the most prevalent pattern observed in both groups. According to Traditional Chinese Medicine (TCM), Wind-Heat is characterized by the upward movement of pathogenic heat to the skin surface, resulting in erythema, inflammation, and the formation of papules or pustules. These features correspond closely with the inflammatory clinical manifestations of acne vulgaris ⁽¹⁵⁾.

In the acupuncture-only group, an improvement in acne lesion severity was observed, as reflected by an increased

proportion of mild cases and a reduction in moderate and severe cases. The decrease in mean GAGS scores suggests that acupuncture may alleviate acne severity by enhancing local microcirculation and modulating inflammatory responses ⁽¹⁶⁾.

More pronounced improvements were observed in the combination group, with a greater shift toward mild acne severity and a consistent reduction in moderate and severe cases. The addition of Melaleuca Green Smoothies facial moisturizer likely provided supplementary anti-inflammatory and antibacterial effects, thereby accelerating the resolution of acne lesions ⁽¹⁷⁾.

Statistical analysis using the Mann–Whitney U test demonstrated a significant difference between the two groups ($p = 0.013$), indicating that the reduction in acne lesion severity was significantly greater in the combination group than in the acupuncture-only group. The higher mean rank observed in the combination group suggests an additive therapeutic effect of the topical herbal formulation when used alongside acupuncture.

The therapeutic effects of local facial acupuncture are thought to involve enhanced microcirculation, local vasodilation, and modulation of inflammatory processes. Needle stimulation induces the release of endogenous opioids and growth-promoting factors, which facilitate tissue repair and contribute to the reduction of inflammatory acne lesions. These mechanisms are consistent with the post-treatment improvements observed in both study groups ⁽¹⁸⁾.

Furthermore, stimulation of acupoints LI4 (Hegu) and LI11 (Quchi) is known to exert immunoregulatory and anti-inflammatory effects. Activation of these points enhances reticuloendothelial system activity and promotes the release of inflammatory mediators that help regulate immune responses, thereby supporting the reduction of acne lesions observed in this study ⁽⁶⁾.

Melaleuca Green Smoothies facial moisturizer contains tamanu oil and tea tree oil, both of which possess antibacterial activity against *Cutibacterium acnes* and anti-inflammatory properties. Bioactive compounds such as calophyllolide and terpinen-4-ol play a role in tissue regeneration and inflammation reduction. These pharmacological effects provide a plausible explanation for the superior outcomes observed in the combination therapy group ⁽¹⁵⁾.

Tea tree oil (*Melaleuca alternifolia*) has been widely reported to exhibit antibacterial effects against *Cutibacterium acnes* and anti-inflammatory activity primarily through its terpinen-4-ol content. Several studies have demonstrated that a 5% tea tree oil gel produces significant clinical improvement in mild to moderate acne, with efficacy comparable to benzoyl peroxide but with fewer local adverse effects ⁽¹⁹⁾.

V. CONCLUSION

Based on this study investigating the combined use of local acupuncture at LI11 (Quchi) and LI4 (Hegu) with Melaleuca Green Smoothies facial moisturizer, several conclusions can be drawn. The participant profile was predominantly female, aged 18–24 years, with Wind-Heat as the most common Traditional Chinese Medicine syndrome differentiation, and the majority were students and office workers. Following the intervention, both the acupuncture-only and combination therapy groups demonstrated reductions in acne vulgaris lesion severity. Statistical analysis using the Mann–Whitney U test revealed a significant difference between the two treatment outcomes ($p = 0.013$), indicating that the combination of acupuncture and Melaleuca Green Smoothies facial moisturizer was more effective than acupuncture alone in reducing acne vulgaris lesion severity.

REFERENCES

1. Morshed ASM, Noor T, Uddin Ahmed MA, Mili FS, Ikram S, Rahman M. Understanding the Impact of Acne Vulgaris And Associated Psychological Distress On Self-Esteem And Quality Of Life Via Regression Modeling with CADI, DLQI, and WHOQoL. *Sci Rep* [Internet]. 2023;13(1):1–13. Doi: 10.1038/s41598-023-48182-6
2. Kim HJ, Kim YH. Exploring Acne Treatments: From Pathophysiological Mechanisms to Emerging Therapies. *Int J Mol Sci*. 2024;25(10).
3. Kementerian Kesehatan Republik Indonesia. Peran Clascoteron pada Tatalaksana Akne Vulgaris Kementerian Kesehatan Republik Indonesia. Jakarta: Kementerian Kesehatan Republik Indonesia; 2024.
4. Widasari NPA, Arsyastuti AAS, Sunyamurthi, I Gde Nengah A. Hubungan Derajat Acne Vulgaris dengan Tingkat Ansietas pada Mahasiswa Fakultas Kedokteran dan Ilmu Kesehatan Universitas Warmadewa. *Aesculapius Med J*. 2024;4(2):252–60.
5. Surbakti JC, Pane HN, Chairul M. The Relationship Between Sleep Quality and Acne Severity (Acne Vulgaris) in Medical Students of Prima Indonesia University, Class of 2022. *J Ners*. 2025;9(4):7372–8.
6. Setya MSA, Mawarti H. Pengaruh Terapi Akupunktur Komplementer Pada Titik Hegu, Quchi, Zusanli, dan Sanyinjiao Pada Lesi Jerawat. *Care J*. 2022;1(1):92–6.
7. Setya MSA, Mawarti H, Utami Pangestu, Ayunda Prisilia K.N, Maria TZ. Pengaruh Terapi Akupunktur Kombinasi Titik Lokal Dan Titik Telinga Endokrin Terhadap Penurunan Derajat Lesi Akne Vulgaris Remaja Peunayong, Aceh Besar. *Teewan J Solut*. 2022;1(2):92–6.
8. Jihe Zhu, Blagica Arsovska, Kozovska K. Acupuncture Treatment For Acne Vulgaris. *Imp J Interdiscip Res*. 2017;3(8):222–3.

9. Agesti D, Dyah Astuti S, Mustika A. Acupuncture and Jianghuang Herbs Treatment in AcneWith Damness Syndrome. J Vocat Heal Stud. 2020; 4:15–20.
10. Byeong-Kook Son, Younghee Yun IHC. Efficacy of ah shi Point Acupuncture on Acne Vulgaris. Acupunct Med. 2010;28(3):126–9.
11. Astrid Teresa. Akne Vulgaris Dewasa : Etiologi, Patogenesis Dan Tatalaksana Terkini. J Kedokt Univ Palangka Raya. 2020;8(1):952–64.
12. Febriyanti DR, Oktaviani N. Tingkat Pengetahuan Mahasiswa Fakultas Farmasi Universitas Pekalongan Terhadap Swamedikasi Acne Vulgaris (Jerawat). Jurnal Ilm Kedokteran dan Kesehatan. 2023;2(2):163–9.
13. Alrabiah Z, Arafah A, Rehman MU, Babelghaith SD, Syed W, Alrashidi FK, et al. Prevalence and Self-Medication for Acne among Students of Health-Related Science Colleges at King Saud University in Riyadh Region Saudi Arabia. Med. 2023;59(1).
14. Kirsten N, Mohr N, Augustin M. Prevalence and Cutaneous Comorbidity Of Acne Vulgaris In The Working Population. Clin Cosmet Investig Dermatol. 2021;14:1393–400.
15. Dashtdar M, Dashtdar MR, Dashtdar B, Kardi K, Shirazi MK. The concept of wind in traditional chinese medicine. J Pharmacopuncture. 2016;19(4):293–302.
16. Almassmoum SM, Balahmar EA, Almutairi ST, Albuainain G, Ahmad R, Naqvi AA. Current Clinical Status of Hydrotherapy; an Evidence Based Retrospective Six-Years (2012-2017) Systemic Review. Bali Med J. 2018;7(3):578–86.
17. Carson CF, Hammer KA, Riley T V. Melaleuca alternifolia (tea tree) oil: A Review of Antimicrobial and Other Medicinal Properties. Clin Microbiol Rev. 2006;19(1):50–62.
18. Turmudzy SFA. Penanganan Jerawat (Acne Vulgaris) Menggunakan Akupunktur Pada Neiting (ST44), Zusanli (ST36), Quchi (LI11) dan Juliao (ST3) Kombinasi Herbal Rimpang Temu Putih serta Daun Mimba [Internet]. Universitas Airlangga; 2017. Available from: <http://repository.unair.ac.id/id/eprint/57580>
19. Kairey L, Agnew T, Bowles EJ, Barkla BJ, Wardle J, Lauche R. Efficacy and safety of Melaleuca alternifolia (tea tree) Oil for Human Health—a Systematic Review of Randomized Controlled Trials. Front Pharmacol. 2023;14(1116077).