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The Effect of Local Acupuncture Point Therapy Combined with Tuina on the Lower Back Pain Scale at Lee Chen Thung Primary Clinic, Central Jakarta

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ABSTRACT

Low back pain (LBP) is a prevalent musculoskeletal disorder that significantly impairs daily life. With a high monthly caseload at the Lee Chen Thung Primary Clinic in Central Jakarta, this study evaluated the effect of combining local acupuncture point therapy with tuina massage on LBP intensity. A one-group pretest-posttest design was employed with 40 subjects, who received the combined therapy twice weekly for ten sessions. Pain was measured using the Numeric Rating Scale (NRS) before and after the intervention. Analysis with the Wilcoxon Signed-Rank Test revealed a statistically significant reduction in pain scores ($p < 0.001$), with most subjects shifting from moderate pain to mild or no pain. The findings demonstrate that this combined therapeutic approach effectively reduces the lower back pain scale.

I. INTRODUCTION

Low back pain (LBP) represents a widespread and debilitating non-specific disorder, characterized by chronic or acute pain in the lumbosacral region arising from diverse etiologies including degenerative, inflammatory, and traumatic causes⁽¹⁾. This condition frequently results from muscular strain or pathological spinal pressure, manifesting as severe pain that significantly restricts activity and diminishes productivity⁽²⁾. Consequently, LBP imposes a substantial economic burden on individuals, families, and healthcare systems, underscoring its critical status as a public health priority⁽³⁾. Globally, it is the foremost contributor to musculoskeletal disability, affecting hundreds of millions and accounting for 7.4% of all years lost to

disability. Epidemiological data from the Global Burden of Disease study establish LBP as the most prevalent Musculoskeletal disorder worldwide, with 570 million cases reported. National prevalence figures vary, with Indonesia reporting an incidence of 1,017,290 cases and a prevalence rate of 9.2%⁽⁴⁾. Prior research into management strategies has validated both pharmacological and non-pharmacological interventions, with studies indicating that acupuncture can effectively reduce pain, though it may require a longer treatment duration⁽⁵⁾. Commonly utilized acupuncture points for LBP have been documented, with BL 23 Shenshu (51%) and BL 25 Dachangshu (43%) among the most frequently selected, while tuina massage has also demonstrated

significant efficacy in reducing pain intensity compared to conventional care alone^(6, 7).

Motivated by the high clinical prevalence of LBP, particularly at Klinik Pratama Lee Chen Thung, which reports approximately 40 cases monthly, this study is designed to investigate a specific integrative therapeutic approach. The primary aim is to evaluate the effect of local point acupuncture therapy in combination with tuina massage on the pain scale scores of patients presenting with low back pain. This investigation seeks to provide empirical evidence for the efficacy of this combined non-pharmacological treatment protocol within a routine clinical practice setting.

This study contributes to the existing body of knowledge by systematically evaluating the synergistic application of local acupuncture and tuina therapy for LBP in a real-world clinical context. It endeavors to demonstrate the practical utility and effectiveness of this integrative approach, potentially offering a viable alternative for patients who are unresponsive to standard pharmacological treatments⁽⁸⁾. By focusing on a defined combination of traditional methods within a specific patient population, the research aim to inform and enhance clinical practice for managing this common and impactful condition.

II. METHODS

This study employed a quasi-experimental, one-group pre-test-post-test design to evaluate the efficacy of a combined acupuncture and Tuina therapy protocol on low back pain intensity. The quantitative design was selected to objectively measure changes in pain scores within a clinical setting where randomized control groups were not feasible. The population comprised all patients presenting with low back pain at the Lee Chen Thung Primary Clinic, Central Jakarta, with a preliminary survey identifying 60 eligible individuals. A sample of 40 patients was selected via purposive sampling

against defined inclusion criteria: willingness to participate, aged 23-60 years, and commitment to complete 6-10 therapy sessions twice weekly. Exclusion criteria included pregnancy and chronic conditions requiring hospitalization.

The independent variable was the therapeutic intervention local point acupuncture at BL 23 (Shenshu) and BL 25 (Dachangshu) followed by Tuina massage at BL 23, with each session lasting 20-27 minutes. The dependent variable was the change in pain intensity, measured using the Numerical Rating Scale (NRS), a validated instrument where patients self-report pain from 0 (no pain) to 10 (severe, uncontrolled pain). Data collection followed a strict protocol: after obtaining informed consent, a pre-test NRS score was recorded, the intervention was administered, and a post-test NRS score was taken immediately after. This procedure was repeated across the course of therapy.

Data analysis proceeded in two stages. Univariate analysis provided descriptive statistics of subject characteristics. For inferential analysis, the Shapiro-Wilk test was first applied to assess data normality. As the data were found to be non-normally distributed, the non-parametric Wilcoxon Signed-Rank Test was utilized to analyze the significance of differences between pre-intervention and post-intervention pain scores, with the threshold for significance set at $p < 0.05$. This analytical approach was chosen for its appropriateness for paired, non-parametric data, thereby ensuring the validity of the findings regarding the intervention's effect.

III. RESULT

This study was conducted from February to December 2025 to evaluate the effect of local point acupuncture combined with Tuina on low back pain scale. A total of 60 patients with low back pain complaints were identified, with 40 subjects meeting the inclusion criteria and

completing the intervention protocol, which consisted of therapy sessions twice a week for a total of 10 sessions.

Table 1. Characteristics of Respondents

Characteristics	N	%
Gender		
Female	20	50.0
Male	20	50.0
Age (years)		
24-30	11	27.5
31-37	9	22.5
38-44	7	17.5
45-51	7	17.5
52-59	6	15.0
Occupation		
Housewife	3	7.5
Private employee	11	27.5
Civil servant	4	10.0
Self-employed	22	55.0
Syndrom Differentiation		
Kidney Deficiency	16	40.0
Cold-Damp	11	27.5
Retention	7	17.5
Liver Qi Stagnation	7	17.5
Qi and Blood Stagnation	6	15.0
Pain Scale (Pretest)		
3	28	70.0
4	12	30.0
Pain Scale (Posttest)		
0	11	27.5
1	19	47.5
2	10	25.0

Based on Table 1, this study involved 40 participants with an equal gender distribution, consisting of 20 females (50.0%) and 20 males (50.0%). Most participants were aged 24–30 years (27.5%), followed by those aged 31–37 years (22.5%), while the lowest proportion was found in the 52–59 years age group (15.0%). The majority of participants were self-employed (55.0%), followed by private employees (27.5%), civil servants (10.0%), and housewives (7.5%).

In terms of syndrome differentiation, Kidney Deficiency was the most common syndrome (40.0%), followed by Cold-Damp Retention (27.5%), Liver Qi Stagnation (17.5%), and Qi and Blood Stagnation (15.0%). Pretest assessment showed that most participants experienced a pain scale

of 3 (70.0%), while 30.0% reported a pain scale of 4. Posttest results demonstrated a reduction in pain intensity, with 27.5% of participants reporting no pain (scale 0), 47.5% reporting mild pain (scale 1), and 25.0% reporting a pain scale of 2.

Table 2. Normality Test

Pain Scale	Statistic	p
Pretest	0.576	<0.001
Posttest	0.811	<0.001

Based on Table 2, the normality of the data was assessed using the Shapiro–Wilk test due to the total number of study subjects being fewer than 50 ($n = 40$). The results of the Shapiro–Wilk test showed that the significance value (Sig) for the pain scale before therapy was $p < 0.001$, while the significance value for the pain scale after therapy was also $p < 0.001$. Both significance values were lower than the predetermined significance level ($\alpha = 0.05$), indicating that the data were not normally distributed, both before and after the intervention. Therefore, the assumption of normality was not met, and the Wilcoxon Signed Rank Test was applied to analyze the difference in pain scale scores before and after therapy.

Table 3. The Result of The Wilcoxon Test

Group	Mean Rank	Z	p
Local Acupoint Acupuncture Combined with Tuina	20.50	-5.587 ^b	<0.001

Based on Table 3, the Wilcoxon Signed-Rank Test demonstrated a statistically significant difference in pain scale scores before and after the intervention in the Local Acupoint Acupuncture Combined with Tuina group. The analysis showed a mean rank of 20.50, with a Z

value of -5.587 and a significance value of $p < 0.001$ ($p < 0.050$), indicating that the intervention resulted in a significant reduction in pain intensity.

IV. DISCUSSION

The discussion of findings elucidates that the combination of local point acupuncture and tuina therapy significantly reduced lower back pain intensity, thereby affirming the study's primary hypothesis. This outcome is interpreted through the lens of both biomedical and Traditional Chinese Medicine (TCM) frameworks.

The demographic profile, revealing a high prevalence among young adults in entrepreneurial or private sector roles, extends the understanding of back pain etiology beyond degenerative aging, highlighting lifestyle and occupational postural stress as dominant contributing factors in this cohort^(5, 9).

Concurrently, the predominance of the Kidney Deficiency syndrome, even within a relatively young sample, offers a nuanced TCM insight, suggesting that functional kidney weakness can manifest from overwork and physical strain, not merely age-related decline.

The therapeutic effect is substantiated by established mechanisms wherein acupuncture stimulates endogenous opioid release for analgesia⁽¹⁰⁾, while tuina ameliorates local Qi and Xue stagnation, reduces muscular tension,

and enhances circulation⁽¹¹⁾. These findings align with and reinforce prior research confirming the efficacy and safety of acupuncture^(12, 13) and tuina for musculoskeletal pain.

Crucially, the study advances clinical understanding by demonstrating that an integrated TCM protocol, specifically targeting local points such as BL 23 and BL 25 combined with manual therapy, constitutes an effective non-pharmacological intervention for lower back pain in a primary care setting, addressing both the symptomatic pain and its implicated TCM pathological patterns.

V. CONCLUSION

This study concludes that the integration of local acupoint acupuncture with Tuina therapy provides a clinically meaningful benefit in managing low back pain. The observed improvement in pain outcomes supports the application of this combined traditional intervention as a complementary, non-pharmacological option within primary healthcare settings. The findings highlight the potential of integrating acupuncture and manual therapy to enhance pain management strategies and improve patient comfort. Further studies employing controlled designs and larger sample sizes are recommended to strengthen the evidence base and explore long-term therapeutic effects.

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