



Article

The Effect of Balance Method and Local Point Acupuncture Therapy on Reducing Low Back Pain Scale at Sehat Bugar Acupuncture Bandung

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ABSTRACT

Low Back Pain (LBP) is one of the most common musculoskeletal disorders experienced by many people and is a leading cause of decreased work productivity. To determine the effect of Balance Method acupuncture and local point acupuncture therapy on reducing the low back pain scale at Sehat Bugar Acupuncture Bandung. This study used a quasi-experimental method with a Pretest-Posttest Two Group Design. The total sample consisted of 30 respondents divided into two groups: the Balance Method therapy group and the local point therapy group. Each respondent received five acupuncture sessions with a frequency of twice per week. Pain intensity was measured using the Numeric Rating Scale (NRS) before and after treatment. Data were analyzed using the Independent Sample T-test. The results showed a significant decrease in pain scale in both groups ($p < 0.050$). This shows that both Balance Method and local point acupuncture therapies are effective in reducing low back pain scale, but the Balance Method therapy provides more optimal results.

I. INTRODUCTION

Low back pain (LBP) is a musculoskeletal disorder commonly experienced worldwide. The causes of low back pain include lifting excessively heavy objects, overstretching the lower back muscles, injury or trauma, and non-ergonomic postures such as bending, leaning, reaching, or kneeling⁽¹⁾. Low back pain is characterized by pain and discomfort in the spinal area between the gluteal folds and the twelfth rib, with or without radiation to the lower extremities⁽²⁾.

According to World Health Organization data in 2022, musculoskeletal disorders affected approximately 1.71 billion people worldwide, with low back pain ranking as the third largest global health problem. Indonesian Basic Health Research (RISKESDAS) in 2021 reported an LBP prevalence of 12,914 cases (3.71%), ranking second after influenza. Data from the Indonesian Neurological Association (PERDOSSI), collected from neurologists in 14 teaching hospitals, showed that out of 4,456 patients

experiencing pain, 819 suffered from low back pain⁽³⁾.

Acupuncture therapy may serve as an alternative treatment option, particularly for patients who are unresponsive or intolerant to pharmacological therapies. Based on empirical knowledge, the acupuncture meridian system consists of local and distal acupuncture points that are believed to exert therapeutic effects on specific organs⁽⁴⁾.

Local point acupuncture is expected to alleviate local pain by activating local analgesic and anti-inflammatory mechanisms, enhancing microcirculation, and promoting growth factors for tissue repair. Local acupuncture is performed at Ashi points and standard acupuncture points in and around the area of low back pain complaints⁽⁵⁾.

Another approach to managing musculoskeletal pain is the Balance Method. Balance Method Acupuncture (BMA) was developed by Dr. Richard Teh-Fu Tan in the United States and is based on classical acupuncture theories of Yin–Yang balance, Wu Xing theory, and meridian systems. BMA is recognized as a safe and effective acupuncture method for pain management⁶. The application of Balance Method Acupuncture involves identifying the affected meridian, determining the balancing meridian, and selecting acupuncture points using mirroring and imaging techniques on the body. Five Balance Method systems are used to determine the balancing meridian, namely ⁽⁷⁾: (1) Chinese Meridian Name Sharing; (2) Meridian Bie-Jing (Branching Meridians); (3) Biao–Li (Interior–Exterior Pairing); (4) Chinese Clock Opposite; (5) Chinese Clock Neighbors. This study aimed to investigate the effect of Balance Method acupuncture and local point acupuncture on the reduction of low back pain intensity.

II. METHODS

This study employed a quasi-experimental design using a pretest–posttest

two-group design with purposive sampling. A total of 30 subjects were divided into two treatment groups: the Balance Method acupuncture group and the local point acupuncture group, each consisting of 15 subjects. The independent variables were Balance Method acupuncture therapy and local point acupuncture therapy, while the dependent variable was pain scale reduction measured using the Numeric Rating Scale (NRS). The operational definition of Balance Method acupuncture applied in this study utilized System 2, in which the Foot Tai Yang meridian was balanced with the Hand Tai Yin meridian. The equipment and materials used included acupuncture needles (1 and 1.5 cun), alcohol swabs, gloves, masks, used needle containers, kidney dishes, and safety boxes.

III. RESULT

This study was conducted at Sehat Bugar Acupuncture Bandung from February to September 2025. Data were collected from 30 participants experiencing moderate low back pain (NRS scale 4–6), including both acute (≤ 12 weeks) and chronic (> 3 months) conditions, who were not undergoing other treatments. The pain was localized, persistent, and non-radiating. Each participant underwent five therapy with a frequency of twice a week.

Table 1. Characteristics of Respondents

Characteristics	Group I		Group II	
	N	%	N	%
Age (years)				
20 - 30	0	0	1	6.7
31 - 40	1	6.7	1	6.7
41 - 50	0	0	2	13.3
51 -60	14	93.3	11	73.3
Work				
Student	0	0	1	6.7
Housewife	7	46.6	7	46.6
Private Employed	2	13.4	5	33.3
Retired	1	6.7	1	6.7
PNS	2	13.3	1	6.7
Self-employed	3	20	0	0
Gender				
Woman	10	66.7	8	53.3
Man	5	33.3	7	46.7

Based on Table 1, it is known from the total number of 30 research subjects, the characteristics of research subjects who experienced lower back pain at Sehat Bugar Akupunktur Bandung were women who worked as Housewives with the highest age range of 51-60 years, namely 25 people.

Table 2. Distribution of research subjects based on scale measurements before intervention

Pain Scale	Group I		Group II	
	N	%	N	%
4	2	13.3	2	13.3
5	5	33.3	4	26.7
6	8	53.4	9	60.0

Table 2 shows that before intervention, the most frequent pain scale in Group I was NRS 6 (8 participants; 53.4%), while in Group II it was also NRS 6 (9 participants; 60.0%).

Table 3. Distribution of research subjects based on scale measurements after intervention

Pain Scale	Group I		Group II	
	N	%	N	%
0	12	80.0	13	86.6
1	3	20.0	2	13.4
2	0	0	0	0

Table 3. shows that after intervention, most participants in Group I reported an NRS of 0 (12 participants; 80.0%), while in Group II an NRS of 0 was reported by 13 participants (86.6%).

Table 4. Mean Reduction in Pain Scale

Intervention Groups		Mean
Group I (Balance Method)	Before	3.16
	After	1.00
Group II (Local Point)	Before	2.97
	After	0.83

Table 4. indicates that the mean reduction in pain scale was 2.08 in the

Balance Method group and 1.90 in the local point group.

Table 5. Normality Test

Groups	N	p
Pre-test I	15	0.144
Post-test I	15	0.181
Pre-test II	15	0.116
Post-test II	15	0.293

The Shapiro–Wilk test showed that all pre-test and post-test data in both groups were normally distributed ($p > 0.050$).

Table 6. Homogeneity Test

Groups	N	Levene Statistic
Post-Test I	15	0.486
Post-Test II	15	

Table 6. shows that the data based on the mean in the Levene test is 0.486. The pain scale research has a significance value of $p > 0.050$, so it can be concluded that the data is homogeneous.

Table 7. Hypothesis Test

Group	Mean	Significance	
		One-Side p	Two-Sided p
Group I	0.18	0.015	0.030
Group II	0.18		

Based on the results of the Independent T-test data shown in Table 7, it is known that the significance results (One-sided p and Two-Sided p) of the pain scale in group I and group II have a significance value of $p < 0.050$, which shows that there is a significant difference between the values in group I and group II.

IV. DISCUSSION

Low back pain can be experienced by individuals of all ages. With increasing age, commonly encountered problems include impairments or changes in physical and psychological functions. This condition is characterized by alterations in the

musculoskeletal system, including decreased cellular function and mass, muscle laxity, reduced energy levels, frequent fatigue, and increased joint fragility⁽¹⁾.

These changes affect the stability, flexibility, and strength of the spinal muscles, thereby increasing the risk of poor posture or spinal misalignment, which can result in abnormal mechanical stress on the spine. Such stress contributes to intervertebral disc and joint degeneration, followed by disc inflammation and compensatory muscular responses⁽⁸⁾. Static working postures, or immobile positions, constitute ergonomic disorders that cause sustained muscle contraction and fatigue and represent one of the contributing factors to low back pain among housewives (IRT). This condition is further exacerbated by exposure to cold weather and low temperatures⁽⁹⁾.

Continuous repetition or performing the same movements consistently without adequate relaxation, as well as heavy workloads and high work-related pressure, represent physical, mental, and social activity demands that must be completed within a certain time frame, according to an individual's physical capacity and limitations are important factors that should be taken into consideration⁽¹⁰⁾.

Studies have shown that women are more susceptible to low back pain (LBP) than men due to lower muscle strength and muscle tone, with female muscle strength estimated to be approximately two-thirds that of males¹¹. However, in terms of prevalence, low back pain is reported to occur more frequently in men. Data from the Community Oriented Program for Control of Rheumatic Disease (COPCORD), released in 2020, indicated that 18.2% of men and 13.6% of women in

Indonesia aged 15–65 years experienced low back pain, particularly during work-related activities⁽¹²⁾.

Among women, this condition frequently occurs during menstruation. In addition, the menopausal process may lead to reduced bone density due to decreased estrogen levels, thereby increasing the risk of low back pain. Pregnancy and the use of contraceptives in women also influence fluctuations in estrogen levels, which may contribute to the development of low back pain⁽¹³⁾.

Low back pain can be effectively treated with local point acupuncture therapy. According to previous studies, local acupuncture points have demonstrated superior outcomes compared to other acupuncture methods. Local acupuncture influences nociceptive, proprioceptive, and autonomic neural pathways. It not only increases the levels of enkephalin and dynorphin in the surrounding lumbar region but also modulates segmental impulse transmission to the midbrain and enhances endorphin release in the hypothalamic–pituitary axis⁽¹⁴⁾.

The Balance Method operates at the level of the central nervous system. It is used not only to alleviate pain by reducing pain perception but also to improve emotional well-being and sleep quality. A study reported that the Balance Method is more effective than acupuncture applied to other body regions. This was evidenced by functional Magnetic Resonance Imaging (fMRI) data of the brain in patients with low back pain due to lumbar disc herniation. Patients receiving Balance Method treatment demonstrated significant changes in brain functional connectivity, particularly involving the amygdala as a central observation center, when compared before and after

intervention. The study also indicated that the Balance Method exerts its effects on the central nervous system through the release of endogenous opioids and other endogenous inhibitory substances, such as dopamine and serotonin⁽⁵⁾.

In the management of low back pain, acupuncture engages three different types of pain receptors to transmit nociceptive signals to the body's afferent nerve endings. A-alpha fibers are myelinated nerves that inhibit pain transmission, whereas A-delta fibers rapidly transmit sensations of touch, temperature, and pain. C fibers convey slow and persistent pain sensations. Numerous studies support these findings, demonstrating that acupuncture can improve functional capacity

and reduce the intensity of low back pain⁽¹⁵⁾.

V. CONCLUSION

In conclusion, both Balance Method acupuncture and local point acupuncture were effective in reducing low back pain, as demonstrated by statistically significant improvements in pain scores ($p < 0.05$). However, the Balance Method produced a greater mean reduction in pain intensity (2.08) compared with local point acupuncture (1.90), indicating superior therapeutic effectiveness. These findings suggest that the Balance Method may be considered a more beneficial acupuncture approach for managing low back pain, although further studies with larger samples and additional outcome measures are recommended to confirm these results.

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