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EFFECTS OF ACUPUNCTURE COMBINED WITH THERAPEUTIC EXERCISE ON PAIN RELIEF AND SHOULDER RANGE OF MOTION IN PATIENTS WITH SIMPLE SHOULDER PERIARTHRITIS AT THAI BINH TRADITIONAL MEDICINE HOSPITAL

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ABSTRACT

Objective: To evaluate the effects of acupuncture combined with therapeutic exercise on pain relief and improvement in shoulder range of motion among patients with simple shoulder periarthritis treated at Thai Binh Traditional Medicine Hospital.

Methods: A prospective clinical intervention study with pre- and post-treatment comparisons was conducted among 50 patients diagnosed with simple shoulder periarthritis who received outpatient treatment at Thai Binh Traditional Medicine Hospital from January to June 2025 and met the study eligibility criteria.

Results: After 15 days of treatment, clinically meaningful improvements were observed in pain and shoulder range of motion according to the Constant-Murley score. The pain component score increased from 3.9 ± 1.67 to 12.1 ± 2.03 points, indicating reduced pain. Shoulder mobility increased from 13.2 ± 7.76 to 34.27 ± 5.65 points, while shoulder strength/function increased from 10.2 ± 1.50 to 22.57 ± 3.25 points. The SPADI pain score decreased by 30.05 ± 12.17 points. Differences between baseline and post-treatment assessments were statistically significant ($p < 0.05$).

Conclusion: Acupuncture combined with therapeutic exercise appears to be an effective supportive approach for reducing pain and improving shoulder range of motion in patients with simple shoulder periarthritis after 15 days of treatment.

Keywords: Acupuncture; therapeutic exercise; simple shoulder periarthritis; shoulder pain; range of motion.

1. INTRODUCTION

Periarthritis of the shoulder is a disorder involving lesions of the periarticular soft tissues, including tendons, muscles, ligaments, and the joint capsule. Although the condition may arise from various causes, its main clinical manifestations are pain and restricted shoulder movement. While it is not life-threatening, shoulder periarthritis can substantially affect patients' work capacity and daily activities. Therefore, early treatment aimed at relieving pain and restoring shoulder function has become an important clinical concern.

In clinical practice, shoulder periarthritis is commonly managed with medical treatment. Modern medicine often relies on anti-inflammatory agents, analgesics, and muscle relaxants. These treatments may provide rapid symptom relief; however, prolonged use may be associated with undesirable adverse effects, such as gastrointestinal ulceration, osteoporosis, and hepatic or renal impairment. For this reason, clinicians increasingly combine conventional treatment with non-pharmacological methods from traditional medicine and rehabilitation, with the expectation of achieving safer and more sustained therapeutic outcomes.

Acupuncture, through neuroendocrine and humoral mechanisms, may contribute to pain relief. Therapeutic exercise can help reduce pain, improve muscle strength, increase joint range of motion, and prevent disease-related complications such as muscle atrophy and joint stiffness [1]. At Thai Binh Traditional Medicine Hospital, most previous studies have focused on the effects of traditional herbal remedies combined with non-pharmacological therapies. To date, limited evidence has been available regarding the specific effects of acupuncture combined with physical/therapeutic exercise among outpatients with simple shoulder periarthritis. Therefore, this study was conducted to evaluate the effects of acupuncture combined with therapeutic exercise on pain relief and improvement in shoulder range of motion in patients with simple shoulder periarthritis treated at Thai Binh Traditional Medicine Hospital.

2. SUBJECTS AND METHODS

2.1. Study participants

Participants were patients who fully met the eligibility criteria according to both modern medicine and traditional medicine.

- Patients aged 18 years or older, regardless of sex or occupation, who were diagnosed with simple shoulder periarthritis according to the Ministry of Health guideline on diagnosis and treatment of musculoskeletal diseases issued in 2016 [2], and who were classified into one of the traditional medicine patterns: Jian Tong (shoulder pain pattern) or Jian Ning (shoulder stiffness pattern).

- Patients who voluntarily agreed to participate in the study and adhered to the prescribed treatment course.

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- Patients who did not receive any other treatment modality during their participation in the study.

2.2. Study methods

2.2.1. Study design

This was a prospective clinical intervention study using pre- and post-treatment comparisons.

2.2.2. Sample size and sampling method

Convenience sampling was applied. All patients who met the inclusion and exclusion criteria during the study period were invited to participate. In total, 50 eligible patients were enrolled.

2.2.3. Study procedure

- Step 1: Patients diagnosed with simple shoulder periarthritis and meeting the selection criteria according to modern medicine and traditional medicine were recruited.

- Step 2: Clinical symptoms were assessed before treatment at baseline (D0).

- Step 3: Necessary paraclinical investigations were indicated, including anteroposterior and lateral shoulder radiographs, chest radiography, and shoulder ultrasonography.

- Step 4: Acupuncture treatment was administered for 25 minutes per session, once daily. The treatment course lasted 15 days, excluding Sundays.

- Step 5: Therapeutic exercise was administered for 25 minutes per session, once daily. The treatment course lasted 15 days, excluding Sundays.

- Step 6: Treatment outcomes were evaluated after 7 days (D7) and after 15 days (D15) of treatment.

2.2.4. Treatment outcome assessment

- Pain was assessed using the Shoulder Pain and Disability Index (SPADI). The scale is scored from 0 to 100; a higher SPADI score indicates greater shoulder-related functional impairment [3].

- Pain level and shoulder range of motion were assessed using the Constant-Murley score, including pain, range of motion, and shoulder strength/function components, with a total score of 100 [4].

- Study variables included general characteristics of participants and relevant clinical indicators.

2.5. Study period and setting

The study was conducted from January 2025 to June 2025 at the Outpatient Department of Thai Binh Traditional Medicine Hospital.

2.6. Statistical analysis

Collected data were processed using biomedical statistical methods with SPSS version 20.0.

2.7. Ethical considerations

The study complied with the review procedures of the Ethics Committee and Scientific Council of Thai Binh University of Medicine and Pharmacy, as well as Thai Binh Traditional Medicine Hospital. All participants were clearly informed about the purpose of the study and voluntarily agreed to participate.

3. RESULTS

Comment Table 1: Female participants accounted for 70% of the study sample, a higher proportion than male participants (30%).

Table 1. General characteristics by sex

Sex	n	%
Male	15	30.0
Female	35	70.0
Total	50	100

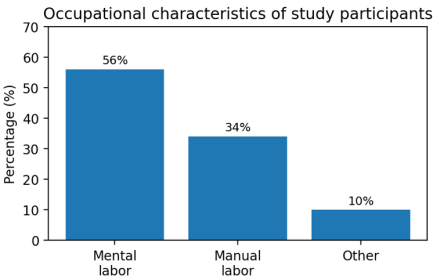

Figure 1. Occupational characteristics of study participants

Comment: Most participants were engaged in mental labor (56%). Manual labor accounted for 34%, and other occupations accounted for 10%.

Table 2. Duration of disease before treatment

Duration	n	%
< 3 weeks	20	40.0
3-6 weeks	27	54.0
> 6 weeks	3	6.0
Total	50	100

Comment: Most participants had a disease duration of less than 6 weeks, including 40% with a duration of less than 3 weeks and 54% with a duration of 3-6 weeks. Participants with a disease duration of more than 6 weeks represented the smallest proportion (6%).

Table 3. Distribution according to traditional medicine pattern (n = 50)

Traditional medicine pattern	n	%
Jian Tong (shoulder pain pattern)	41	82.0
Jian Ning (shoulder stiffness pattern)	9	18.0

Comment: According to traditional medicine classification, 82% of participants had the Jian Tong pattern, while 18% had the Jian Ning pattern.

Table 4. Shoulder radiographic characteristics (n = 50)

Shoulder radiographic finding	n	%
Tendon calcification	5	10.0
Shoulder osteoarthritis	3	6.0
Normal shoulder radiograph	42	84.0

Comment: Most participants had no detectable abnormalities on routine radiographs (84%). Tendon calcification was observed in 10%, and shoulder osteoarthritis was observed in 6%.

Table 5. Improvement in pain according to the SPADI pain score at D7 and D15

Indicator	D0 (mean ± SD)	D7 (mean ± SD)	pD7-D0	D15 (mean ± SD)	ΔD0-D15	pD15-D0
SPADI pain score	58.44 ± 14.76	46.72 ± 11.26	< 0.05	21.39 ± 9.18	30.05 ± 12.17	< 0.05

Comment: The SPADI pain score decreased from 58.44 ± 14.76 points at baseline to 46.72 ± 11.26 points after 7 days of treatment and to 21.39 ± 9.18 points after 15 days of treatment. The mean reduction from D0 to D15 was 30.05 ± 12.17 points. These differences were statistically significant (p < 0.05).

Table 6. Improvement in pain level and shoulder range of motion according to the Constant-Murley score at D7 and D15

Indicator	D0 (mean ± SD)	D7 (mean ± SD)	pD7-D0	D15 (mean ± SD)	pD15-D0
Pain component	3.9 ± 1.67	7.33 ± 2.60	< 0.05	12.1 ± 2.03	< 0.05
Activities of daily living	8.47 ± 2.25	12.93 ± 1.36	< 0.05	18.53 ± 2.14	< 0.05
Shoulder range of motion	13.2 ± 7.76	27.27 ± 7.69	< 0.05	34.27 ± 5.65	< 0.05
Shoulder strength/function	10.2 ± 1.50	15.23 ± 1.67	< 0.05	22.57 ± 3.25	< 0.05
Total score	40.03 ± 10.08	63.5 ± 12.38	< 0.05	80.37 ± 10.9	< 0.05

Comment: After 15 days of treatment, the pain component score increased from 3.9 ± 1.67 to 12.1 ± 2.03 points. Shoulder range of motion increased from 13.2 ± 7.76 to 34.27 ± 5.65 points, and shoulder strength/function increased from 10.2 ± 1.50 to 22.57 ± 3.25 points (p < 0.05).

Table 7. Treatment outcomes by traditional medicine pattern at D15

Pattern	Good n (%)	Fair n (%)	Moderate n (%)	Poor n (%)	pD15-D0
Jian Tong	5 (12.2)	36 (87.8)	0 (0.0)	0 (0.0)	> 0.05
Jian Ning	1 (11.11)	7 (77.78)	1 (11.11)	0 (0.0)	> 0.05

Comment: After 15 days of treatment, no participants in either traditional medicine pattern group had a poor treatment outcome. In the Jian Tong group, 12.2% of patients achieved a good outcome and 87.8% achieved a fair outcome, with no moderate outcomes. In the Jian Ning group, 11.11% achieved a good outcome, 77.78% achieved a fair outcome, and 11.11% achieved a moderate outcome. However, the difference in treatment outcomes by traditional medicine pattern before and after 15 days of treatment was not statistically significant (p > 0.05).

4. DISCUSSION

In clinical practice, several tools may be used to assess shoulder function, including the Constant-Murley score, the EFA scale, and the SPADI. In the present study, we used the SPADI and the Constant-Murley score. The SPADI evaluates patients' pain using a visual analogue scale approach [3]. In addition to capturing shoulder-related problems in daily activities, the SPADI allows patients to report aspects of their physical and psychological status that are associated with shoulder impairment.

The study findings showed that the SPADI pain score decreased to 46.72 ± 11.26 points after 7 days of treatment and to 21.39 ± 9.18 points after 15 days of treatment, with a statistically significant difference compared with baseline (p < 0.05). The Constant-Murley score was used to assess improvements in pain, function, and shoulder range of motion after 7 and 15 days of treatment.

In our study, most patients were of working age. Lifestyle factors and occupational activities may contribute to shoulder joint injury; however, most participants were at an early stage of disease, with pain and mild limitation of shoulder movement as the main manifestations. From the perspective of traditional medicine, acupuncture may help regulate meridians, promote blood circulation, and relieve pain, whereas therapeutic exercise may improve shoulder range of motion. These combined effects may contribute to better performance of daily activities, improved shoulder strength/function, and favorable conditions for functional recovery in work and daily life. The findings suggest that acupuncture and therapeutic exercise may provide complementary benefits for patients at this stage of disease.

In simple shoulder periarthritis, spontaneous recovery may occur in some patients if treatment is not provided; however, the extent and likelihood of recovery vary among individuals. Among patients of working age, delayed treatment combined with repeated daily occupational strain may lead to more severe shoulder injury, prolong recovery, and adversely affect work and daily activities. Among retired patients, aging and underlying comorbidities may also influence the natural recovery process. Therefore, early and appropriate treatment is important for improving shoulder recovery and enhancing patients' quality of life.

5. CONCLUSION

Acupuncture combined with therapeutic exercise showed favorable effectiveness in the treatment of simple shoulder periarthritis. After 15 days of treatment, this combined approach improved shoulder range of motion and reduced pain intensity among the study participants.

REFERENCES

[1] Department of Science and Training, Ministry of Health. Therapeutic Exercise. Vietnam Education Publishing House; 2010.

[2] Ministry of Health. Guidelines for Technical Procedures in Rehabilitation Examination and Treatment. Hanoi: Medical Publishing House; 2014.

[3] Breckenridge JD, McAuley JH. Shoulder Pain and Disability Index (SPADI). J Physiother. 2011;57:197.
[4] Constant CR, Murley AHG. A clinical method of function assessment of the shoulder. Clin Orthop Relat Res. 2018;214:160-164.
[5] Tran Ngoc An. Periarthritis of the shoulder. In: Rheumatic Diseases. Hanoi: Medical Publishing House; 2002.