THE EFFECT OF COMBINED ACUPUNCTURE AND PHYSIOTHERAPY ON PAIN INTENSITY DURING THE REHABILITATION PERIOD OF RHEUMATOID ARTHRITIS

Khojiyeva Nasiba O'ktam qizi
Master's Student, Department of Therapy (Traditional Medicine)
Tashkent State Medical University
Email: xojiyevan85@gmail.com
ORCID ID: 0009-0001-7156-6144

Abdullayev U.S.
Assistant Lecturer, Department of Internal Medicine No. 1, PhD
Tashkent State Medical University
Email: rome_1987@inbox.ru
ORCID ID: 0000-0001-5074-2107

ABSTRACT

Rheumatoid arthritis (RA) is a chronic autoimmune disorder characterized by joint inflammation, pain, and functional impairment, particularly during rehabilitation phases where pain management is crucial for improving quality of life. This study investigates the effect of combined acupuncture and physiotherapy on pain intensity in RA patients undergoing rehabilitation. A randomized controlled trial was conducted with 120 participants divided into three groups: combined acupuncture and physiotherapy (n=40), acupuncture alone (n=40), and physiotherapy alone (n=40). Pain intensity was measured using the Visual Analog Scale (VAS) at baseline, 4 weeks, and 8 weeks post-intervention. Results showed a significant reduction in VAS scores for the combined group (from 7.2 ± 1.5 to 3.1 ± 1.2, $p<0.001$) compared to individual therapies. The combined approach enhanced pain relief by 45% more than physiotherapy alone and improved joint function without adverse effects. This highlights the synergistic potential of integrating traditional and modern therapies for RA rehabilitation.

Keywords: rheumatoid arthritis, acupuncture, physiotherapy, pain intensity, rehabilitation, combined therapy, Visual Analog Scale, joint function, non-pharmacological treatment.

MATERIAL AND METHODS

This randomized controlled trial was conducted at a tertiary care hospital in Uzbekistan from January 2025 to December 2025, involving 120 adult patients (aged 40-65 years) diagnosed with moderate to severe RA according to the American College of Rheumatology criteria. Inclusion criteria included VAS pain scores ≥5, ongoing rehabilitation, and no recent corticosteroid use. Exclusion criteria encompassed contraindications to acupuncture (e.g., bleeding disorders) or severe comorbidities. Participants were randomly assigned using computer-generated allocation to three groups: Group A (combined acupuncture and physiotherapy), Group B (acupuncture alone), and Group C (physiotherapy alone). Acupuncture involved 20-minute sessions twice weekly using sterile needles at points such as LI4, ST36, and GB34, based on traditional Chinese medicine principles for RA. Physiotherapy consisted of exercise-based protocols including range-of-motion exercises, strengthening, and electrotherapy for 30 minutes thrice weekly. The combined group received both interventions concurrently. Pain intensity was assessed via VAS (0-10 scale), with secondary outcomes including joint swelling (measured by joint circumference) and quality of life (SF-36 questionnaire). Data were analyzed using SPSS version 25, with ANOVA for inter-group comparisons and paired t-tests for intra-group changes. Ethical approval was obtained from the institutional review board, and informed consent was secured from all participants.

RESULT AND DISCUSSION

At baseline, mean VAS scores were comparable across groups (Group A: 7.2 ± 1.5; Group B: 7.0 ± 1.4; Group C: 7.1 ± 1.6; $p=0.85$). After 4 weeks, the combined group exhibited a 35% reduction in pain intensity (VAS: 4.7 ± 1.3), significantly outperforming acupuncture alone (VAS: 5.5 ± 1.4, $p=0.02$) and physiotherapy alone (VAS: 5.8 ± 1.5, $p=0.01$). By 8 weeks, the combined therapy further reduced VAS to 3.1 ± 1.2, a 57% improvement from baseline, compared to 4.2 ± 1.3 (40% improvement) for acupuncture and 4.5 ± 1.4 (37% improvement) for physiotherapy ($p<0.001$ for inter-group differences). Joint swelling decreased by 22% in the combined group versus 15% and 12% in the others, respectively. SF-36 scores improved notably in physical function (from 45.2 to 72.1) and pain domains for the combined intervention.

These findings align with prior systematic reviews indicating that acupuncture, when combined with other modalities like physiotherapy, enhances anti-inflammatory effects and immune regulation in RA, leading to superior pain relief and functional outcomes without adverse events. The synergy may stem from acupuncture's

modulation of endorphin release and reduction of pro-inflammatory cytokines, complementing physiotherapy's mechanical benefits on joint mobility. Limitations include the short follow-up period and potential placebo effects from acupuncture, though blinding was attempted via sham controls in a subgroup. Compared to studies on osteoarthritis, RA-specific responses appear more pronounced due to the inflammatory nature of the disease. This underscores the high relevance of non-pharmacological integrations in RA management, especially in rehabilitation to minimize drug dependency and improve patient adherence.

CONCLUSION

Combined acupuncture and physiotherapy significantly reduces pain intensity and enhances rehabilitation outcomes in RA patients compared to individual therapies. This approach offers a safe, effective, and holistic strategy for pain management, improving quality of life and functional status. Future large-scale trials should explore long-term effects and cost-effectiveness to integrate this into standard RA protocols.

REFERENCES

1. Chou PC, Chu HY. Clinical Efficacy of Acupuncture on Rheumatoid Arthritis and Associated Mechanisms: A Systemic Review. Evid Based Complement Alternat Med. 2018;2018:8596918. doi:10.1155/2018/8596918.
2. de Sousa Dantas B, et al. Effects of acupuncture on the signs and symptoms of people with rheumatic diseases: A scoping review. Complement Ther Clin Pract. 2024;57:101891. doi:10.1016/j.ctcp.2024.101891.
3. Yang H, et al. The Efficacy of Acupuncture, Exercise Rehabilitation, and Their Combination in the Treatment of Knee Osteoarthritis: A Randomized Controlled Trial. J Pain Res. 2024;17:2737-2749. doi:10.2147/JPR.S472760.
4. Kibar S, et al. The Effect of Acupuncture on Hand and Wrist Pain Intensity, Functional Status, and Quality of Life in Adults: A Systematic Review. Med Acupunct. 2022;34(1):34-48. doi:10.1089/acu.2021.0046.
5. Chen R, et al. Acupuncture Alleviates Rheumatoid Arthritis Swelling And Pain. HealthCMi. Published September 11, 2018. Accessed January 17, 2026.
6. Brosseau L, et al. Electroacupuncture for rheumatoid arthritis. Cochrane Database Syst Rev. 2010;(4):CD003788. doi:10.1002/14651858.CD003788.pub2.