

THE EFFECTS OF ELECTRO-ACUPUNCTURE AND TRANSCUTANEOUS ELECTRICAL NERVE STIMULATION ON PATIENTS WITH PAINFUL OSTEOARTHRITIC KNEES: A RANDOMIZED CONTROLLED TRIAL WITH FOLLOW-UP EVALUATION

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OBJECTIVES: To examine the relative effectiveness of electro-acupuncture (EA) and transcutaneous electrical nerve stimulation (TENS) in alleviating osteoarthritic (OA)-induced knee pain. **DESIGN:** Single-blinded, randomized controlled study.

SUBJECTS: Twenty-four (24) subjects (23 women and 1 man), mean age 85, were recruited from eight subsidized Care & Attention Homes for the elderly.

INTERVENTIONS: Subjects were randomly assigned to the EA, TENS, or control groups. Subjects in the EA group (n = 8) received low-frequency EA (2 Hz) on two acupuncture points (ST-35, Dubi and EX-LE-4, Neixiyan) of the painful knee for 20 minutes. Subjects in the TENS group (n = 8) received low-frequency TENS of 2 Hz and pulse width of 200 micros on the same acupuncture points for 20 minutes. In both treatment groups, electrical treatment was carried out for a total of eight sessions in 2 weeks. Eight subjects received osteoarthritic knee care and education only in a control group. All subjects were evaluated before the first treatment, after the last treatment, and at 2-week follow-up periods.

RESULTS: After eight sessions of treatment, there was significant reduction of knee pain in both EA group and TENS group, as measured by the Numeric Rating Scale (NRS) of pain ($p < 0.01$). Prolonged analgesic effect was maintained in the EA and the TENS groups at a 2-week follow-up evaluation. The Timed Up-and-Go Test (TUGT) score of the EA group was significantly lower than that of the control group ($p < 0.05$), but such change was not observed in the TENS group.

CONCLUSIONS: Both EA and TENS treatments were effective in reducing OA-induced knee pain. EA had the additional advantage of enhancing the TUGT results as opposed to TENS treatment or no treatment, which did not produce such corollary effect.

A RANDOMIZED TRIAL OF ACUPUNCTURE AS AN ADJUNCTIVE THERAPY IN OSTEOARTHRITIS OF THE KNEE

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OBJECTIVE: The purpose of this study was to investigate the efficacy of acupuncture as an adjunctive therapy to standard care for the relief of pain and dysfunction in elderly patients with osteoarthritis (OA) of the knee. **METHODS:** Seventy-three patients with symptomatic OA of the knee were randomly assigned to treatment (acupuncture) or standard care (control). Analysis was performed on last score carried forward to account for patients who dropped out before completion. Patients self-scored Western Ontario and McMaster Universities Osteoarthritis

Index (WOMAC) and Lequesne indices at baseline and at 4, 8 and 12 weeks. Patients in the control group were offered acupuncture treatment after 12 weeks. The data for these patients are pooled with those from the original acupuncture group for within-group analysis.

RESULTS: Patients randomized to acupuncture improved on both WOMAC and Lequesne indices compared to those who received standard treatment alone. Significant differences on total WOMAC Scale were seen at 4 and 8 weeks. There appears to be a slight decline in effect at 4 weeks after cessation of treatment (12 weeks after first treatment). No adverse effects of acupuncture were reported.

CONCLUSION: These data suggest that acupuncture is an effective and safe adjunctive therapy to conventional care for patients with OA of the knee.