

# Refined sound therapy in combination with cognitive behavioural therapy to treat tinnitus: A randomised controlled trial

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## Abstract

**Objective:** To evaluate the effectiveness of refined acoustic therapy in combination with cognitive therapy for tinnitus compared to common treatment modality. **Study Design:** A single-center, randomized, and controlled trial. **Methods:** Patients were randomised into either the treatment group (refined sound therapy combined with cognitive therapy) or the control group (post-auricular injections of lidocaine and methylprednisolone sodium succinate). Information pre- and post-treatment was collected using the Self-Rating Depression Scale (SDS), the Hamilton Anxiety Rating Scale (HAM-A), visual analogue score (VAS), Tinnitus loudness, and Tinnitus Handicap Inventory (THI) score. **Results:** The THI (33.54 versus 19.23), SDS (41.79 versus 35.54) and HAM-A (9.46 versus 6.19) scores of the treatment group improved significantly ( $p < 0.05$ ). In the control group, the THI scores improved significantly (31.7 versus 26.24,  $p < 0.05$ ), but the SDS ( $p = 0.338$ ) and HAM-A ( $p = 0.574$ ) scores did not. Tinnitus loudness (the treatment group 46.67 versus 41.19; the control group 43.12 versus 40.18) and VAS scores (the treatment group 5.67 versus 4.17; the control group 5.58 versus 4.73) were significantly improved in the two groups ( $p < 0.05$ ). There was significant difference in the reduction of THI (14.31 versus 5.45), SDS (6.25 versus 1.02), HAM-A (3.27 versus 0.45) and VAS (1.50 versus 0.85) scores between the two groups ( $p < 0.05$ ), and the treatment group showed a greater reduction. There was no significant difference in the reduction of tinnitus loudness ( $p = 0.057$ ). **Conclusion:** Refined sound therapy combined with cognitive therapy is more effective at treating tinnitus and improving psychological symptoms. Post-auricular injections of lidocaine and methylprednisolone sodium succinate has no effect at improving psychological symptoms.

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