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IMMEDIATE EFFECTIVENESS OF TRANSCUTANEOUS ELECTRICAL NERVE STIMULATION (TENS) IN TREATING TRIGGER POINTS OF THE UPPER TRAPEZIUS IN MYOFASCIAL PAIN SYNDROME: A PRELIMINARY STUDY

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Myofascial pain syndrome (MPS) is the “Sensory, motor, and autonomic symptoms caused by myofascial trigger points (MTPs) while MTP is defined as hypersensitive spot in a skeletal muscle associated with a taut band. The spot is painful on compression and refers pain in a characteristic pattern for each muscle. There are various techniques to treat trigger points. However, there are not many studies that have analyzed the effect of Transcutaneous Electrical Nerve Stimulation (TENS) on trigger points. Therefore, in this research, the focus is to investigate the effectiveness of TENS in treating trigger points (MTPs) of the upper trapezius in myofascial pain syndrome compared to a control group.

Twenty patients (aged 18–50 years) who had myofascial pain syndrome with unilateral upper trapezius MTPs were randomized into two treatment groups: Group A (n=10) and Group B (n=10). Ethical clearance was obtained from the ethical clearance committee of the Faculty of Medicine, University of Peradeniya. All subjects received standard treatment viz. hot pack, range of motion (ROM) exercises and myofascial release. Group A was treated with TENS in addition to the standard treatment and Group B treated with standard treatment only. Cervical extension (CEX) was measured using goniometer at two time points: before the 1st treatment (baseline) and within 5 minutes after the 1st treatment. Data were analyzed in mixed analysis-of-variance model, with group (A vs. B) and time of measuring as independent variables.

On the outcome of cervical extension group A had a mean increase from 29.3 to 46, while group B had a mean increase from 28.9 to 35.3. A significant group main effect for cervical extension ($F=43.63_{(1, 18)}$, $P<0.0001$) indicated that it increased over the course of treatment, irrespective of the treatment method. There was a significant group x time interaction ($F=2.61_{(1, 22)}$, $P<0.01$), indicating that TENS (mean increase of CEX from 29.3 to 46) was superior to the control (mean increase of CEX from 28.9 to 35.3) in increasing the cervical extension. Although TENS therapy alone is not a treating modality of MTPs, it can be used as a secondary technique when combined with other therapies for cervical myofascial pain. In conclusion, the results suggest that when combined with standard treatment modalities, TENS is effective in increasing cervical extension of the upper trapezius.