



**AB No: 46: Effect of Low Intensity Transcutaneous Electrical Nerve Stimulation (TENS) on Vastus Medialis Obliques Muscle Activation for Reduction in Pain and Improvement in Function in Patients with Chronic Osteoarthritis of Knee Joint**

**Author:** Mamta Shetty and Rucha Pradhan

**Affiliation:** MGM School of Physiotherapy Navi Mumbai

**DOI:** 10.4103/2456-7787.361098

**Purpose:** Knee osteoarthritis is a leading cause of disability resulting in significant reduction of knee function and quadriceps strength with increase in pain. This study focuses on effects of low intensity TENS with exercises on Vastus medialis obliques muscle activation for osteoarthritis knee versus conventional exercises.

**Relevance:** TENS is known to be an effective modality used to alleviate pain, improve muscle strength, and function.

**Participants:** Study comprised of 38 participants with osteoarthritis knee (19 in each group) between 50–70 years age group as per ACR diagnostic criteria, selected by purposive random sampling.



**Methodology:** Group A received conventional exercises. Group B received TENS on Vastus Medialis Obliques muscle additionally. They were assessed pre intervention, 6th week and 12th week of study using NRS, Modified WOMAC, Bergs Balance Scale and 30 Second Chair Stand Test

**Analysis:** Data was analyzed using SPSS software (Version 24; USA, 2019) and Shapiro- Wilk test was used to assess normality.

**Results:** Intra group analysis reported reduction in pain ( $p=0.00$ ) level (on NRS- 63.6% in group A and 39.6% in group B; on WOMAC- 72.4% in group A and 36.6% in group B), increase in function by 56.4% in group A and 33% in group B ( $p=0.00$ ), and improvement in strength by 35% in group A and 0.2% in group B ( $p=0.00$ ). No significant improvement was noted on inter group comparison in pain ( $p= 0.086$ ), function ( $p= 0.066$ ) and strength ( $p=0.190$ ) post 12 weeks of intervention.

**Conclusion:** Findings from present study report application of Low Intensity TENS for Vastus Medialis Obliques muscle activation along with exercise versus conventional exercises demonstrated no significant difference on chronic osteoarthritis knee patients for pain, function and strength.

**Implications:** TENS would act as an adjunct to conventional treatment of osteoarthritis in not only chronic stage but also in early stages. It could also be implied to any age group having osteoarthritis

**Keywords:** Osteoarthritis Knee, Pain, Function, Strength, Low intensity TENS, Exercise