



COMPARISON OF EFFECTIVENESS OF STRETCHING EXERCISE WITH TENS AND SOFT TISSUE MOBILIZATION WITH ULTRASOUND THERAPY IN TRAPEZITIS IN SCHOOL GOING STUDENTS

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ABSTRACT

Background: Trapezitis is an inflammatory pain arising from the trapezius muscle causing a severe neck pain. Trapezius muscle is the classic stress pain and it is the most common musculoskeletal disorder. It is usually caused by placing too much stress or strain over the trapezius muscle. The upper trapezius muscles are designated as postural muscle and it is highly susceptible to overuse. Some studies indicate that shoulder and neck pain is more common among children and teenagers of developing countries. Therefore, detecting and understanding the pain and managing it during childhood and adolescence is needed to prevent such problems **Purpose:** The comparison of effectiveness of stretching exercise with TENS and Soft tissue mobilization with Ultrasound Therapy in Trapezitis in school going students. **Methodology:** Random sampling method was used for an experimental study on 30 school students, age between 15-18 years at senior secondary school, Meerut, U.P. We excluded the participants of age less than 15 years. Patients are divided into 2 groups: GROUP A & GROUP B (15 students each). **Result:** Results were analyzed using t test (paired and unpaired). The entire group A and B completed all sessions of treatment for 3 weeks 3 days per week. Before the protocol was started pre interventions readings were noted down and also the post readings were noted down after the whole protocol. The results showed that both the groups were effective in reducing pain and disability in patients with trapezitis which is statistically significant; however the inter group comparison showed that in group B there is statistically significant difference in the reduction of pain and disability then group A. **Conclusion:** When the post interventions were compared between the two groups, the group which was treated with US along with STM showed advantage over the group treated with TENS along with statics stretching. The difference between the effects was statistically significant. As a result we conclude that Soft tissue mobilization along with Ultrasound Therapy are more effective than stretching exercise with TENS in reducing pain and improving functional disability in school going students with Trapezitis.

KEYWORDS :

INTRODUCTION:

Trapezitis is an inflammatory pain arising from the trapezius muscle causing a severe neck pain. Trapezius muscle is the classic stress pain and it is the most common musculoskeletal disorder. It is usually caused by placing too much stress or strain over the trapezius muscle. The upper trapezius muscles are designated as postural muscle and it is highly susceptible to overuse. Tightness in the muscles can decrease the ROM of the neck. The decrease in motion can negatively affect the mobility of the cervical joints. Limited ROM creates an increase in soft tissue tightness with an ensuing pain-spasm cycle which can be difficult to break. Low level activity of the upper trapezius is frequently found during sitting and standing which is related to head posture and is a common source of tension and neck pain in people who work at a desk and computers or who spend many hours driving. The upper trapezius is often placed in a shortened position by poor ergonomics which creates shortness in the muscle. Trapezitis is mainly caused due to stress and tension, repetitive movements, head forward posture, sitting without back support, working with no arm support, prolong head bending activity, using thick pillow, tight pectoral major muscle, severe neck spasm. Overloading and injury of muscle tissue lead to involuntary shortening of localized fibers. The areas of stressed soft tissue receive less oxygen, glucose, and nutrient delivery and subsequently accumulate high levels of metabolic waste products.

The end result of this cascade of events is the creation of altered tissue status, pain, and the development of trigger points (TrP). It is a hyper irritable spot associated with a taut band of a skeletal muscle that is painful on compression, palpation, and/or stretch, and that usually gives rise to a typical referred pain pattern. Active TrPs are cause of clinical symptoms and their evoked referred pain is responsible for the patients' pain. Latent TrPs may not be an immediate source of pain, but might produce other muscle dysfunctions, i.e., fatigue, restricted range of motion, and referred pain with muscle contraction or compression. The stress that gives rise to this condition is often a combination of tension on, and

contraction of, the muscle. stretching sideways to reach for an object while holding the head tilted in the opposite direction can cause such an attack. A typical example may be someone on the floor reaching to recover an object that rolled under a desk or sitting in the front seat of a car reaching to recover an object from the back seat. The abduction of the arm requires scapular fixation by action of the trapezius, and the sideways tilt of the head puts tension on the muscle at the same time. The muscle develops a knot or cramp better described as segmental spasm in the muscle.

Group Allocations

Group A- Apply TENS and static stretching.

Group B- Apply Ultrasound therapy with Soft tissue manipulation (STM)

30 Subjects (n=30) were selected based on inclusion exclusion criteria and then every subject were haphazardly partitioned into two equivalent groups, GROUP A (n=15) and GROUP B (n=15).

METHODOLOGY

Sample Size: 30 students

Study Design: experimental study design

Sampling Method: random sampling method

Inclusion Criteria:

students of classes 9th to 12th. Both male and female student, Students in the age group 15-18years, Unilateral trapezitis

Exclusion criteria:

Those with age less than 15 years, students who have had recent surgeries, Recent injuries or fractures.

Duration of Study: 3 weeks 3 alternate days /week

Data Analysis:

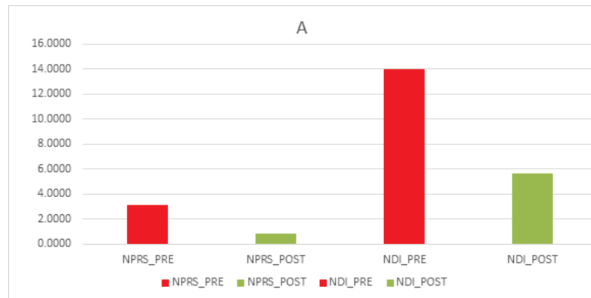
The measurable test utilized for information investigation was t-test. The paired t- test was utilized to think about the pre and post intercession scores for NPRS and NDI for each group independently.

Tools used in the study:

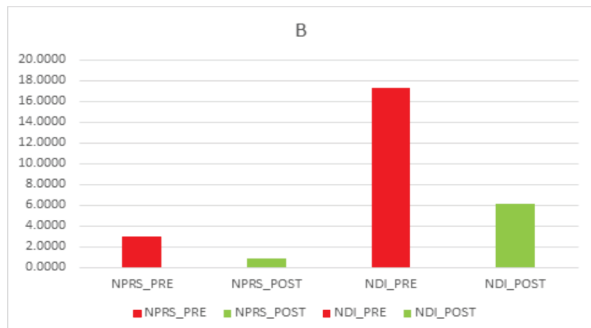
Numeric Pain Rating Scale (NPRS), Neck Disability Index (NDI)

RESULTS

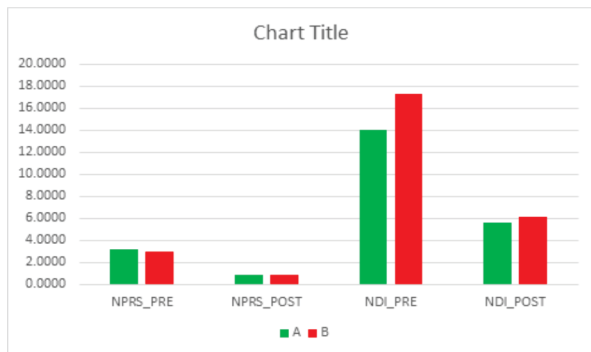
Results were analyzed using t test (paired and unpaired)



Graph 1.1 This Graph Is Showing The Pre And Post Intervention Mean Score Of Nprs & Ndi Group A



Graph 1.2 This Graph Is Showing The Pre And Post Intervention Mean Score Of Nprs & Ndi Group



Graph 1.3 This Graph Is Showing The Pre And Post Intervention Mean Score Of Nprs & Ndi Group A & B

DISCUSSION:

In this current study pain and neck disability is taken as the parameters and they were scored by utilizing the Numeric Pain Rating Scale (NPRS) and Neck Disability Index(NDI). There are frequent ways to deal with the treatment of trapezititis; this experient was directed to see the comparison between the effectiveness of TENS with stretching and US with STM in trapezititis in school students. Aim to reduce the pain and muscles spasm and increase the muscle strength and restore mobility. However few studies have verified the effect of these therapeutic interventions. Hence, the study aims to investigate the effect of TENS with static stretching and US with STM. 30 subjects who fulfilled the inclusion and exclusion criteria were assigned randomly to one of two groups with

each group consisting of 15 subjects Group A was treated with treatment of TENS with static stretching and group B was treated with US with STM. Before the commencement of the treatment and at the end of the treatment program both Groups were evaluated for pain intensity using NPRS scale and functional disability using NDI. The result of the present study proved that both the groups showed significant improvement but when two groups were compared then group B showed higher range of improvement in pain and functional ability in students with trapezititis. In group A, pre intervention of NPRS mean is 3.133 and post intervention NPRS is 0.8000. Pre intervention of NDI mean is 14 and post intervention NDI mean is 5.6. Whereas, in group B NPRS pre intervention mean is 2.933 and NPRS post intervention mean is 0.8667. Although, both the groups statistically showed significant results but group B showed a major difference in post interventions as comparing to group A. Hence, statistically it proves that US along with STM was more effective than TENS along with static stretching in trapezititis in school going students.

CONCLUSION:

This is an experimental study with random sampling which was conducted to study the comparison between the effectiveness of stretching with TENS and Soft Tissue mobilization with Ultrasound Therapy in Trapezititis in school going students .This study showed that there was significant reduction in pain in patients with trapezititis as a result of both Ultrasound Therapy with Soft Tissue mobilization.

When the post interventions were compared between the two groups ,the group which was treated with US along with STM showed advantage over the group treated with TENS along with statics stretching.

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