



EFFECTIVENESS OF MUSCLE ENERGY TECHNIQUE AND K-TAPING IN CERVICAL MYOFASCIAL PAIN SYNDROME: A COMPARATIVE STUDY

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KEYWORDS :

INTRODUCTION

Neck pain is a complaint of general population and it often causes remarkable personal suffering due to pain, disability, impaired quality of life. Myofascial pain the common source of neck pain which produce discomfort and disability for many patients is myofascial pain which releases substances eg – serotonin and histamine that further causes hyperirritability of the nerve fibers thus pain (Schneider, 1995). Myofascial syndrome is defined by presence of tightness and trigger points. The commonest muscles affected by trigger points are those in neck, shoulder, low back and hip girdle (Janet Travell). The literature suggests that the main long-term consequences of neck pain are individual disability and job absenteeism, which are recognized as significant public health and socioeconomic problems.

A wide variety of treatment methods have been advocated in upper trapezius tightness and trigger points, including pressure method, stretch and spray, TENS, myofascial release, trigger point injections, Dry needling, Muscle energy technique, Massage, and even surgical excision points are discrete, focal, hyperirritable spots located in a taut band of skeletal muscle. In MET, Post Isometric Relaxation is an integral part of (M.E.T) as initially used in osteopathy, and subsequently by most school of manual medicine. Post Isometric Relaxation (P.I.R) was introduced by Karel Lewitt. Another option is K tape helps reduce pressure to tissue and may reduce discomfort or pain.

Aim of the Study

To find out the effectiveness of Muscle Energy technique and K tape on pain and disability in patients with neck pain.

METHODOLOGY

Study Setting- Population of study constituted the female and male subjects of Prayas Health care OPD of Sardar Bhagwan Singh Post Graduate Institute, Balawala, Dehradun.

Sample Source- Some Females selected were residing in Mata Gujri Hostel and of Sardar Bhagwan Singh Post Graduate Institute, Balawala, Dehradun and others subjects were from locality.

Sample Size- 30 Females and Males were included in the study who fulfilled inclusion criteria

Sampling Method- Random sampling method was taken in which 30 female and Male and subjects were divided into 2 groups based on inclusion and exclusion criteria.

Study Design- Experimental clinical trial where effects of Muscle Energy Technique and K Tape were compared.

Inclusion Criteria

1. Patients with upper trapezius active trigger points.
2. One who understand commands.
3. Heterogeneous population of age 18-40 yrs
4. Pain score on VAS minimum 3.

Exclusion Criteria

1. Cervical radiculopathy
2. Fibromyalgia
3. Reflex sympathetic dystrophy
4. Cervical spondylosis

Instrumentation

- Plinth
- VAS scale
- Northwick Park Pain Questionnaire

PROCEDURE

30 female and male subjects of age 18-30 yrs were included in inclusion criteria. Each subject was examined for upper Trapezius tightness and trigger points after obtaining informed consent. For all the subjects' dependent variables i.e Northwick Park Questionnaire and VAS were measured by palpating the trigger point in upper trapezius by direct pressure by finger or thumb on 1st day. It was a randomized clinical trial sampling, for dividing subjects into 2 groups.

- Group A (N = 15) patients were given Hot Packs in supine position for 10-15 minutes prior to Muscle Energy Technique. In supine position the patient head was side bent away from the side to be treated and a mild restricted contraction was initiated by the patient for 7-10 seconds with 5-6 Repetitions. The same procedure was repeated every day for 14 sessions.
- Group B (N = 15) patients were given Hot Packs in supine position for 10-15 minutes prior to K Tape. Subject was then taken to sitting position in chair with back supported. Upper trapezius was taken to stretch position and K Tape was applied over the skin. It was left for 3 days and subject was given 2 days rest. The procedure was repeated for 4 Session.

RESULTS

Findings of the study are depicted in the Table 2 and Table 3.

Table 1. Subject Information

S.NO.	GROUP	NO. OF SUBJECTS
1	A	15
2	B	15

Within The Groups

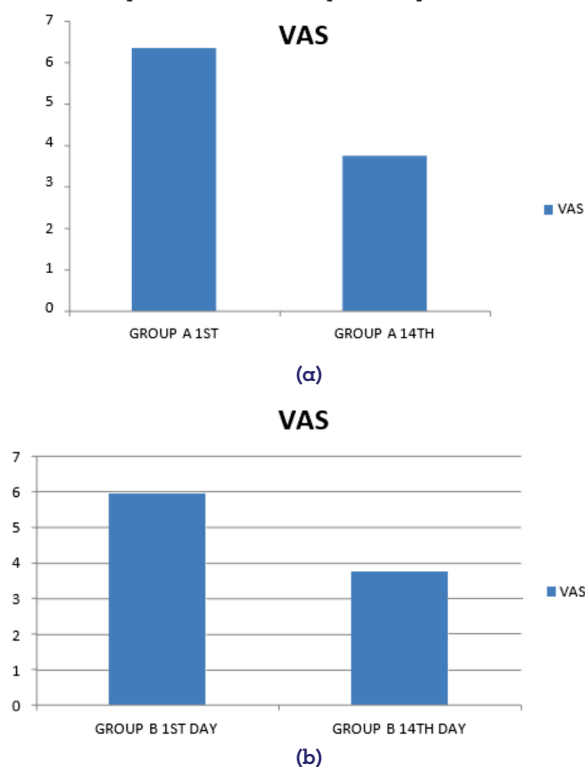
Table 2 - Comparison Of VAS Within Group A And B Between 1st And 14th Day

Group	Suffix	Mean sd	Standard error	P value	T value
A	Pre	6.333 ± 1.39	.36078	.000	7.447
	Post	3.733 ± 1.75	.45216		Sig. (2-tailed)
B	Pre	5.9333 ± 1.57	.40786	.000	7.432
	Post	3.7333 ± 2.120	.54743		Sig(2-tailed)

Table 3 - Comparison Of NPQ Within Group A And B Between 1st And 14th Day

Group	Suffix	Mean sd	Standard error	P value	T value
A	Pre	49.0±17.68	4.56592	.000	5.892
	Post	28.133±1.75	3.67730		Sig (2-tailed)
B	Pre	53.400±14.94	3.85919	.000	7.812
	Post	30.1333±19.39	5.00749		Sig (2-tailed)

Paired t test has been performed for comparison the value and NPQ at 1st and 14th day within A and B. The result show significant difference (P < 0.005). Thus, the above results show efficacy of all the two techniques in improvement of VAS.

**Graph 1 (a) & (b) - Comparison Of Mean Of VAS At 1st And 14th Day Between Group A And B**

DISCUSSION

The goal of study was to compare the effect of MET and K tape on upper trapezius myofascial pain syndrome. According to Purpous, 30 subjects of mean age 25.63 ± 5.37 were taken and divided into 3 groups. Group A included 15 subjects with mean age 22.8 ± 2.37 , Group B included 15 subjects with mean age 28.46 ± 6.63 . NPQ and VAS of trigger point was recorded on 1st day. Group A was given MET and Group B was given K tape and ROM and VAS was measured at 14th day. When ROM and VAS of 1st and 14th day was compared within groups, using paired t-test, the results showed significant difference in NPQ and VAS in both Groups. It showed Kinesio Tape is more effective than MET. Our findings are supported by Results are supported by S. Alshaymaa, Azeim A, D. Amira, E. Haytham, K. Omaina (2018) concluded k tape and MET are effective technique for myofascial pain.

Allah Z. and Alireza S. (2018) stated Kinesio Taping can reduce neck pain, increase the neck's range of motion, and ultimately reduce the disability caused by myofascial pain syndrome both in the short term and in the long term. Ptazskowski K., Slupska L. Malgorzata P., Kolcz A. (2015) Concluded K tape was better for pain relief in comparison with PIR intervention. Professor Philip Greenman (1989) in his study that Muscle Energy Technique lengthens a shortened or

spastic muscle. The new understanding of nature of trigger point provides a rationale as why MET is so effective since the primary trigger point etiology appears to be a contraction knot at a dysfunctional motor plate, gentle intermittent muscular contraction may be very effective for normalizing sarcomere lengths of involved muscle fibres. The action potentials resulting from the voluntary effort cause contraction of elongated sarcomere on both sides of contraction knot. Liebenson suggest that there is evidence that receptors responsible for post isometric relaxation lie within muscles (Robinson, 1982)

Limitations of the Study

- Long term effects were not seen
- Number of subjects were less and were not checked for homogeneity .
- Duration of symptoms were not controlled
- Pressure Algometer was not used to assess the exact amount of pressure

CONCLUSION

This study shows that Kinesio Tape and Muscle Energy Technique are effective in pain and reducing Neck disability in Upper trapezius Myofascial Pain Syndrome. Hence , Null hypothesis is rejected which states that there is no significant difference in effectiveness of K taping And MET.

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