Original Article

Comparison of Effectiveness of Muscle energy Technique with Strain Counter Strain Technique on the Patients of Non-Specific Neck Pain

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ABSTRACT

Non-specific neck pain is a condition which is diagnosed through symptoms when serious and objective cervical spinal pathology (e.g., trauma, malignancy, radiculopathy, etc.) has been ruled out. Many studies have been done previously for both techniques, muscle energy technique and strain-counter strain technique, for treatment of patients with non-specific neck pain.

Objective: To compare the effectiveness of Muscle Energy Technique with Strain Counter-Strain Technique in patients with non-specific neck pain.

Methods: Single blinded randomized clinical trial was conducted. The assessor was blinded from the allocation in the groups. Forty Patients were included in the study divided into two groups; each group received one technique. They were followed for Seven sessions. Questionnaire including visual analogue scale, NDI were used to collect pre-treatment and post-treatment data. Data was analyzed by using SPSS ver. 21. Independent sample t-test was applied to compare means of patients.

Results: Neck flexion of the Patients pretreatment Mean Group 1:24.6500, Group 2:23.0500. Neck Flexion of the patient after treatment Mean Group 1(SCS) 32.0500 Group 2(MET) 40.0000 Neck Extension of the Patient pretreatment Mean Group 1: 33.8500 Group 2: 30.6500. Neck extension of the patients. Post treatment Mean SCS 41.5000 MET53.2500. The given results and detailed results given in the table shows that both techniques are improving ROM, but MET are more effective than SCS. p value is 0.001 which is significant

Conclusion: This study concluded that Muscle Energy Technique is better in reducing pain as compared to Strain Counter Strain Technique.

INTRODUCTION

Non-specific neck pain is a condition which is diagnosed through symptoms when serious and objective cervical spinal pathology (e.g., trauma, malignancy, radiculopathy, etc.) has been ruled out. The disorder which has statistics showing that it affects 30% of males and 50% of females across their life and total 13% of adults at any one time. Epidemiological studies on neck pain shows neck pain is more prevalent in females than males. The neck pain is the cause of major financial load on health care program that can lead to extreme impairments. Research, which have been conducted on subjects using computer in maximum time in Pakistan, shows 27.7% subjects with radiating and I pilot survey in Pakistan on computer users showed that 27.7% had radiating and localized cervical Ache. The potential cause of this neck pain is Myofascial trigger points (MTrPs) which are present in muscles and fascia. MTrPs refers as hypersensitive taut bands present in skeletal muscle. These are painful on compression or palpation and also show unique pattern of pain radiating beyond its point of origin. There have been used many therapeutic techniques by therapists to manage the Myofascial trigger points but Strain counterstains is an approach that is to be evaluated regarding its efficacy on scientific basis. Strain counterstain is an osteopathic...
Effectiveness of Muscle Energy Technique with Strain Counter Strain Process

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The unique positioning for upper trapezius is as follows, ipsilateral side flexion, contralateral rotation, and ipsilateral shoulder abduction, external rotation. This position is maintained for approximately 90 seconds. The other technique which is Muscle Energy technique (MET) is well-known osteopathic manipulative technique frequently used to manage spinal somatic disorders. There is less evidence to show its effectiveness, however, the effect of MET is compared in a study to determine the active neck range of motion (ROM). Two groups, asymptomatic young and middle-aged adults, were compared (n=18) pre-treatment and post-treatment protocol. The results against matched control subjects (n=14) that had received sham manipulative treatment regimen were compared. The MET showed a substantial increment in overall regional neck range of motion in the treatment group (approximately 4 degrees) when matched with control group (p<.001). Significant differences were also seen in the size of change in the domain of three planes of motion (rotation, p<.002; lateral bending, p<.01), with flexion/extension being the minimum affected (p=.2). These statistics show that the use of the MET can make sharp rises in active cervical degree of movements in asymptomatic group [18]. The effectiveness of various mobilization and therapeutic techniques in improving cervical ROM and decreasing neck pain in the patients of non-specific neck pain is still ambiguous and unclear.

M E T H O D S

Single blinded randomized clinical trial was conducted at Mayo Hospital Lahore Pakistan. The assessor was blinded from the allocation in the groups. Permission was obtained from the Head of the department of physiotherapy Mayo Hospital Lahore. Sample of patients was taken randomly. Both male and female between age of 20-40 year having neck pain and decrease cervical ROM, diagnosed cases of non-specific neck pain were included in the study while patients with cervical injury, radiculopathy and spondylosis were excluded. 40 patients were included and divided into two groups. Consent is taken from the patients for inclusion in the study. Patients in both groups were assessed for same parameters (VAS, ROM and NDI). Patients were followed by 2 weeks. Patients were divided into two groups Group 1 and Group 2. Pre-test measurements was taken with the help of Visual Analogue Scale, and Neck Disability Index and goniometer prior to the intervention. Group 1 patients were given Strain Counter technique for 7 sessions in two weeks. Patient was remained in the position of ease for 90–120 seconds. Group 2 patients were given muscle energy techniques for 7 sessions in two weeks. 3-5 muscle contractions with 5-7 seconds each contraction (not more than 20% of total muscle strength) for 5 repetitions. Collected data was analysed by entering it into the SPSS ver. 21. Outcome measuring tools were compared by means compared for both techniques which were going to be compared in this study. It compared by using independent sample t test.

R E S U L T S

Results for Independent sample t test are given as for the ROM and NDI. Neck flexion of the Patients pretreatment Mean group 1: 24.6500 group 2: 23.0500. Neck Flexion of the patient after treatment Mean SCS 32.0500 MET 40.0000. Neck Extension of the Patient pretreatment Mean Group 1: 33.8500 GROUP 2: 30.6500. Neck extension of the patients Post treatment Mean SCS 41.5000 MET 53.2500. Neck disability index pain intensity. Group 1: 4.2500 Group 2: 5.2000. Neck disability index Pain intensity post treatment. SCS 2.8500 MET 1.7500. Neck disability index personal care Group 1: 4.8500 Group 2: 5.1500. Neck disability index personal care post treatment SCS 3.5000 MET 2.2500. Neck disability index Lifting pretreatment Group 1: 4.5500 Group 2: 5.3500. Neck disability index post treatment SCS 3.4000 MET 2.4000. Both groups showed decrease in pain and increased ROM of neck within group in pre and post-treatment analysis as the p-value was >0.05 while Muscle Energy Technique more reduction in pain and to increase ROM in patients suffering from non-specific neck pain as compared to Strain Counter strain technique. The independent sample T-test showed that both techniques were improving ROM, but MET was more effective than SCS. p value is 0.001 which is significant.
The results showed that both techniques were improving ROM but MET was more effective than SCS. p value is 0.001 which is significant.

**Discussion**

In this study two Techniques were compared one was the SCS and other was MET. Patients were followed for Seven sessions. Above given results of ROM and NDI shows that MET is better than the SCS in reducing pain and increasing ROM of the patients suffering from nonspecific neck pain. This study will promote the decision making of the professionals who are treating the nonspecific neck pain in selecting the most appropriate technique for the better outcomes and for the better results. This study will prevent the professionals from the time consuming and further experimental application and a clinician will be able to make the proper decision and proper management of the disease. Utilization of these techniques makes the individuals properly managed and reduce the pain in nonspecific neck pain Patel et-al done study on low back pain in which both muscle energy technique with and without strain-counterstain technique are equally effective [19]. Sbardella et al., done study which showed that muscle energy technique is effective for the treatment of acute and chronic non-specific neck pain. The results are similar to this study that muscle energy technique is effective for the nonspecific neck pain [20]. Marzouk A. Elythy et al., done similar study on low back dysfunction which shows that both Muscle Energy Technique and Strain

**Table 1: Group Statistics of Neck ROM Pre and Post Treatment**

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**Table 2: Independent Sample t-test on Neck ROM**

The results showed that both techniques were improving ROM but MET was more effective than SCS. p value is 0.001 which is significant.
Counter Strain are effective of treatment. These results are supporting this study results.[21]

**CONCLUSION**

From this study it is concluded that Muscle Energy Technique is better to reduce pain and to increase ROM in patients suffering from non-specific neck pain as compared to Strain Counter strain technique

**REFERENCES**


