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Original Research Paper

Physiotherapy

A STUDY TO COMPARE THE EFFECTIVENESS OF THE ACTIVE STRETCHING VERSUS MYOFASCIAL RELEASE WITH PASSIVE STRETCHING IN SUBJECTS WITH ACUTE LOWER THORACIC BACK PAIN

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ABSTRACT

Introduction: Thoracic back pain is experienced across the lifespan by healthy individuals and is a common presentation in primary healthcare clinical practice. Thoracic back pain caused by Poor posture, Muscular irritation, Dysfunction in the spinal joints and sudden injury or trauma. However, the epidemiological characteristics of Thoracic back pain are not well documented compared to neck and low back pain. The aim of this study is to compare the effectiveness of the active stretching and myofascial release with passive stretching in thoracic back pain subjects. **Methods:** The Study design is Experimental study design done with Comparative pre and posttest.30 samples are divided into 2 groups of 15. Visual analog scale (VAS) and Oswestry disability index (ODI) was taken as tool for evaluating outcome measures. Group-A receives active stretching and group-B receives passive stretching with myofacial release technique. The outcome is better with group-B with significant p-value-0.01. **Conclusion:** Both group-A and group-B shows significant reduction on pain levels, but group -b shows significant improvement on acute phase on reduction of pain. It is evident that passive stretching with myofacial release is highly effective for a symptomatic relief in patients with lower thoracic pain.

KEYWORDS : lower thoracic pain, myofacial release, stretching, active and passive stretching

INTRODUCTION:

Thoracic back pain is common throughout life but is not as well studied as neck pain or low back pain. Thoracic back pain is more often due to serious spinal pathology than neck or low back pain but thoracic back pain is also prevalent among healthy individuals without any serious underlying cause. In Children and adolescents, thoracic back pain was associated more with female gender, postural changes associated with backpack use, backpack weight, other musculoskeletal symptoms, participation in specific sports, chair height at school and difficulty with homework. Poorer mental health and age transition from early to late adolescence were also significant risk factors. In adults, thoracic back pain was associated with concurrent other musculoskeletal symptoms and difficulty in performing activities of daily living. The most common cause of thoracic back pain appears to originate from muscular irritation or other soft tissue problems. These can arise from lack of strength, poor posture, prolonged sitting at a computer, using a backpack, overuse injuries (such as repetitive motion), or trauma such as a whiplash injury caused by a car accident or as a result of a sports injury. Physiotherapy passive applications like stretching, myofacial release techniques serves as an important aspect of reducing lower thoracic pain. Stretching is a form of physical exercise in which a specific muscle or tendon. The result of stretching is feeling increased with flexibility levels, regaining muscle strength and increased range of motion. Myofacial release (MFR) is an alternative medicine therapy claimed to be useful for treating skeletal muscle immobility and pain by relaxing contracted muscles, improving blood, oxygen, and lymphatic circulation, and stimulating the stretch reflex in muscles.

METHODS:

In this experimental study design, after getting consent from the subjects allocated to the two groups by simple random method. This study was conducted in the outpatient Physiotherapy department, Chettinad Hospital and Research Institute, Kelambakkam. Subjects with thoracic back pain with acute phase with 12-30 years age and both male and female, poor posture patients pain with recent history of trauma, overuse or with playing sports are included. Subjects with fever and systematic illness, metabolic disorders, recent fracture and recent thoracic surgery patients, Localized hematoma, internal fixation on thoracic region and spine tumor are excluded. 30 subjects are taken for the intervention of 3 weeks daily for 30 minutes duration. The outcome measures of Vas scale and Oswestry disability questionnaire are used to measure at baseline and post-intervention.

Procedure:

The thirty subjects will be randomly allocated into two groups - Group A & B. Group A will receive active stretching exercise alone. Stretching consist of child pose, knee chest, quadratus lumborum, cat & camel and oblique stretch with a hold duration of 15-30 secs with 3 sets. Group B will receive myofascial trigger release and passive stretching. And Subject ware treated daily for 30 minutes. Myofacial release consists of soft tissues release on muscles of dorsolumbar region with grade 2. Quadartus lumborum, knee chest, child pose oblique stretch are given by passive mode with a hold duration of 15-30 secs for 3 sets. Before starting the treatment the pre-test values are measured by using visual analog scale and also Oswestry disability questionnaire in both groups. And after 3 weeks of the treatment the post-test values are measured in both groups. Later the post- test values are compared between two groups using the VAS scores and Oswestry Disability scores.

RESULT:

Comparison of visual analog scale score between group A and group B in pre and post test

VAS SCALE	GROUP A		GROUP B		T – test	Significance p-value
	MEAN	S.D	MEAN	S.D		
Pre Test	6.3	0.723747	6.4	0.736788	-0.25	0.402206
Post Test	2.9	0.798809	2.4	1.125463	5.252027	0.0001

RESULT AND CONCLUSION:

RESULT:

Group B showed significant effect with p value < 0.1. While comparing of visual analog scale and oswestry Disability Questionnaire score posttest with group A and group B.

CONCLUSION:

The group A and B showed a significant improvement of reduced pain. But, group B those who underwent myofascial release and passive stretching has a more effective change on comparing with group A who received active stretching alone.

The myofacial release technique and passive stretching in thoracic back pain subjected to be more effective in reducing pain.

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