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EFFECT OF SUBSCAPULARIS MET VERSUS MAITLAND MOBILIZATION ON RANGE OF MOTION AND PAIN IN SUBJECTS WITH ADHESIVE CAPSULITIES

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ABSTRACT

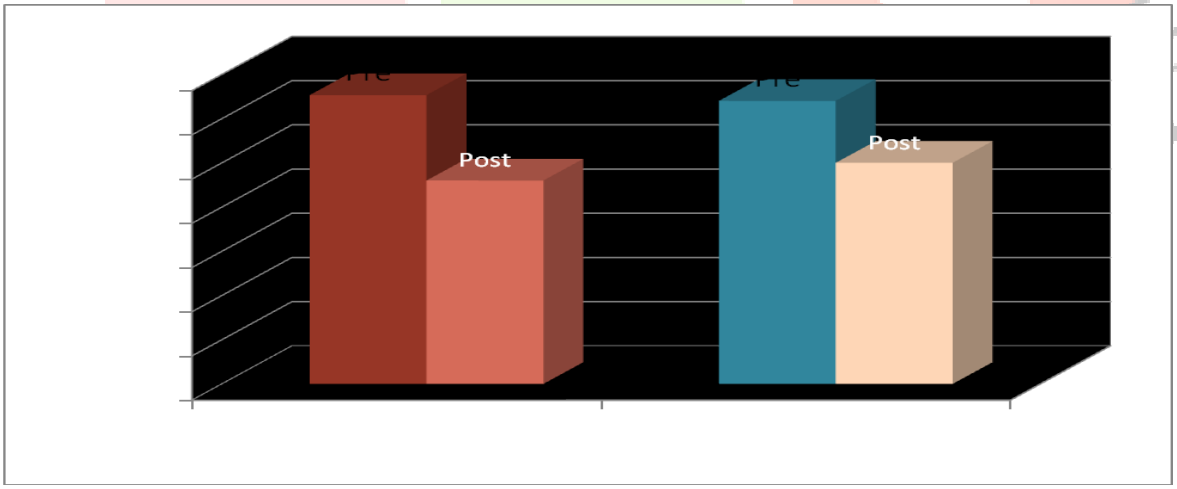
Background and purpose: Adhesive capsulitis is a syndrome defined in its purest sense as idiopathic painful restriction of shoulder movement that results in global restriction of the glenohumeral joint.Loss of ROM, especially that of external rotation and pain in subjects with adhesive capsulitis results in severe functional impairments, especially overhead activities. Mobilizations are means of increasing joint mobility and decreasing pain by passively gliding the joint surfaces to stretch the capsule that has been shown to be effective by various researches throughout the globe. Muscle energy techniques are a newer technique that focuses on contractile elements to reduce pain, increase ROM and improve function.

Methodology: 32 samples of adhesive capsulitis were selected by convenient sampling technique. Total study duration was of 2 months. Samples were randomly divided in to 2 groups. Conventional exercises were given in both the groups. In 1st group MET was given in addition to conventional exercise and in 2nd group Maitland mobilization was given in addition to conventional exercise. Total protocol was of 1 month, 5 days a week,

twice a day. Two outcome measures were used.NPRS for Pain and Active External Rotation and abduction ROM (Using Universal Goniometer).

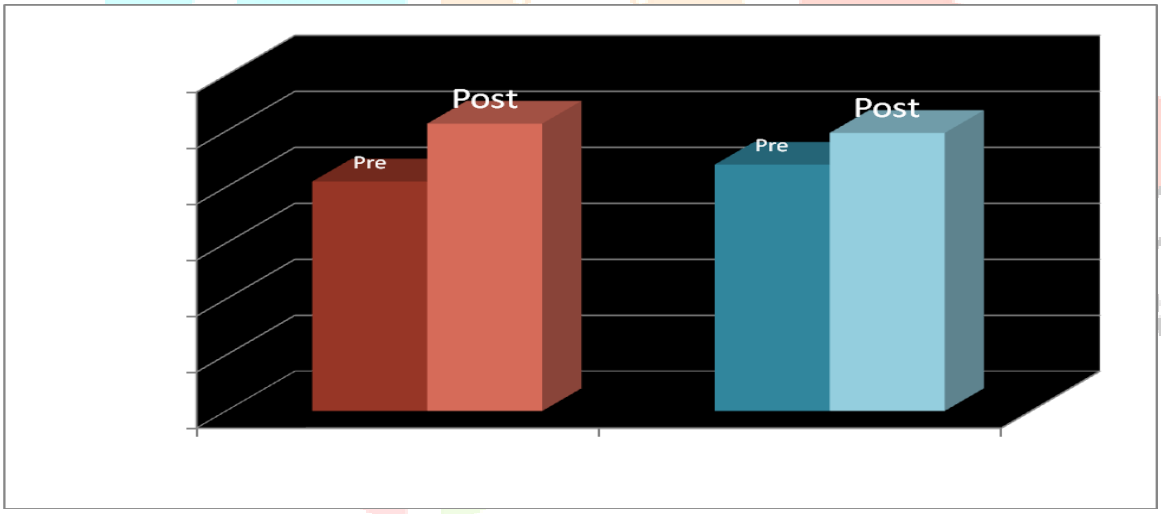
Data analysis and Result: The data has been analysed using SPSS version 16. The significance level had been kept at 95%. The data has been screened for normality before applying any statistical tests. Changes in the outcome measures have been analysed within groups as well as between groups.

Groups	Mean change in NPRS	SD	Difference between A & B	T value	P value
Group-A	1.96	0.79	0.46	1.595	<0.001
Group-B	1.50	0.69			



Groups	Mean change in EROM	SD	Difference between A & B	T value	P value
Group-A	10.63	2.28	5.03	6.26	<0.001
Group-B	5.60	1.75			

NPRS in both the groups



ROM in both the groups

Discussion:

The present study found significant improvements in pain and ER ROM in both groups.

Yet, greater improvement is found in MET group for pain and ER ROM as compared to Maitland group. Joint mobilization techniques help to relieve pain due to its neurophysiologic effect on the joint mechanoreceptors and also help to maintain extensibility of the articular and periarticular structures due to its biomechanical effect which is focused directly on reduction of tension of periarticular tissue, that increases ROM.[19] The same mechanism might have caused an immediate reduction in pain and increase in ROM in current study. As studied

by Freyer et al, MET reduces pain by centrally mediated pain inhibitory mechanism and neuronal mechanism in dorsal horn by neurological and tissue factors such as stimulation of low threshold mechanoreceptors, leads to possible getting effects and pain reduction. The study also showed that rhythmic muscular contraction with MET affects interstitial and tissue fluid flow, that reduces pain and improves range of motion.[20] Subscapularis has been clearly identified as source of pain and restriction of external rotation range of motion in subacromial impingement syndrome as well as adhesive capsulitis by various clinical and arthroscopic studies.[21,22]

Donatelli et al has clearly showed that rotator cuff muscles have a major role in producing as well as limiting shoulder abduction and rotations, especially external rotation. Subscapularis muscle, coracohumeral ligament and middle glenohumeral ligament along with glenohumeral capsule have the potential to limit external rotation of humerus. [23,24,25] .From the results of current study, Subscapularis seems to have a major role in limiting ER ROM and production of pain and hence, greater improvement is offered by MET to subscapularis.Yet, future studies are required to assess the long term effects of Subscapularis MET on pain, range of motion as well as function.

Conclusion: The present study found significant improvements in pain and ROM in both groups. Yet, greater improvement is found in MET group for pain and ROM as compared to Maitland group.

Key-words: Adhesive capsulitis, MET, Maitland