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A comparative study on the effectiveness of scapular stabilization exercises and myofascial release in the management of pain and grip strength among shoulder impingement syndrome patients

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Abstract

Introduction: Shoulder impingement clinical syndrome which occurs when the tendons of the rotator cuff muscles become irritated and inflamed as they pass through the subacromial space, the passage beneath the acromion. This can result in pain, weakness and loss of movement at the shoulder.

Aims & Objectives: The purpose of the study is to find the effectiveness of scapular stabilization exercises and myofascial release in the management of pain and grip strengthening among shoulder impingement syndrome patients.

Materials and Methods: Scapular stabilization exercises and Myofascial release therapy were given for 20 subjects 10 in each group. Data was analysed by unpaired t-test and paired t- test P value < 0.05 was considered as statistically significant.

Result: When comparing the mean values of Group A and Group B, both groups have shown significant difference in scapular position and muscle endurance. Hence it is concluded that Scapular stabilization and Deep neck flexor strengthening exercise effective among scapular dyskinesis patients.

Conclusion: From the statistical results, it can be concluded there is significant difference in scapular position and muscle endurance in both groups. When comparing the mean value it is found that the both group treated with Scapula stabilization exercise and Deep neck flexor strengthening exercise were effective in patients with scapular dyskinesis.

Keywords: Grip strength, management of pain, shoulder impingement syndrome patients

Introduction

Background: Shoulder impingement clinical syndrome which occurs when the tendons of the rotator cuff muscles become irritated and inflamed as they pass through the subacromial space, the passage beneath the acromion. This can result in pain, weakness and loss of movement at the shoulder. Shoulder pain in shoulder impingement syndrome is a very common musculoskeletal disease with a high incidence rate about 7 to 36%. It affects about 20% of the entire adult population. Scapula stabilization exercises include isometric or closed chain exercises. Closed chain exercises improve scapular motor patterns. Isometric exercises such as scapular retraction allow for early neuromuscular re-education of dysfunctional rhomboids and the middle trapezius Myofascial release is a safe and very effective hand on technique that involves applying gentle sustained pressure in to the myofascial connective tissue restrictions to eliminate pain and restore motion.

Study Purpose: The purpose of the study is to find the effectiveness of scapular stabilization exercises and myofascial release in the management of pain and grip strengthening among shoulder impingement syndrome patients.

Study Design: Pre and Post-test, randomized control study

Method

20 subjects were randomly selected who fulfilled the inclusion and exclusion criteria and were divided into 2 groups. Group A- Scapular Stabilization exercises and Group B with Myofascial release therapy for group A Shoulder blade squeezed against wall, Isometric

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strengthening of rotator cuff in abduction, shows isometric strengthening of rotator cuff in abduction, Isometric strengthening of rotator cuff in external rotation, all were given for 10 times per set, 2 sets per session, 2 sessions per day and the treatment duration is 4 minutes. The total duration of scapular stabilization exercises is 15-20 minutes. For Group B myofascial release Hand placed on the muscle trigger point Therapist apply firm pressure on the supraspinatus trigger point Pressure applied for 30 seconds with Rest time for 5 seconds Repetition: 3 to 5 times for 2 session /day, 5 time / week. For 1 month.

Results

Analysis of Dependent variable scapular position in Group A: The calculated paired 't' value is 4.23 and 't' table value is 3.250 at 0.005 level. Since the calculated 't' value is more than 't' table value, it shows that there is significant difference in scapular position following Deep neck flexor strengthening exercise in patients with scapular dyskinesia.

Analysis of Dependent variable scapular position in Group B: The calculated paired 't' value is 6.71 and 't' table value is 3.250 at 0.005 level. Since the calculated 't' value is more than 't' table value, it shows that there is significant difference in scapular position following scapular stabilization in patients with scapular dyskinesia.

Analysis of Dependent variable scapular position between Group A and Group B: The calculated paired 't' value is 1.1902 and 't' table value is 3.250 at 0.005 level. Since the calculated 't' value is more than 't' table value, it shows that there is no significant difference between Deep neck flexor strengthening exercise and scapular stabilization in management of patients with scapular dyskinesia.

When comparing the mean values of Group A and Group B, both groups have shown significant difference in scapular position and muscle endurance. Hence it is concluded that Scapular stabilization and Deep neck flexor strengthening exercise is effective among scapular dyskinesia patients.

Analysis of Dependent variable muscle endurance in Group A: The calculated paired 't' value is 16.489 and 't' table value is 3.250 at 0.005 level. Since the calculated 't' value is more than 't' table value, it shows that there is significant difference in muscle endurance following Deep neck flexor strengthening exercise in patients with scapular dyskinesia.

Analysis of dependent variable in muscle endurance in Group B: The calculated paired 't' value is 16.509 and 't' table value is 3.250 at 0.005 level. Since the calculated 't' value is more than 't' table value, it shows that there is significant difference in muscle endurance following scapular stabilization in patients with scapular dyskinesia.

Analysis of dependent variable muscle endurance between Group A and Group B: The calculated unpaired 't' value is 1.104 and 't' table value is 3.250 at 0.005 level. Since the calculated 't' value is more than 't' table value, it shows that there is no significant difference between Deep neck flexor strengthening and Scapular stabilization in patients with scapular dyskinesia.

When comparing the mean values of Group A and Group B, both groups have shown significant difference in scapular

position and muscle endurance. Hence it is concluded that Scapular stabilization and Deep neck flexor strengthening exercise effective among scapular dyskinesia patients.

Conclusion

From the statistical results, it can be concluded there is significant difference in scapular position and muscle endurance in both groups. When comparing the mean value it is found that the both group treated with Scapula stabilization exercise and Deep neck flexor strengthening exercise were effective in patients with scapular dyskinesia.

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www.livesstrong.com diabetes, h/o pre-eclampsia, cardiovascular/lung diseases, smokers and anaemia were excluded from the study. Pregnant females in their first trimester were included in the study.