



“A Study to Compare the Effectiveness of McKenzie Approach V/S Scapular Stabilization Exercises on Pain and Side Flexion Range of Motion in Subjects with Trapezitis - A Randomized Controlled Trial.”

Harshkumar Aghara¹, Dr Himashi Ruparelia², Dr Rahul Chhatlani³

1- Fourth year B. Physiotherapy student, Faculty of Physiotherapy, Marwadi University, Rajkot, Gujarat

2,3- Assistant Professor, Faculty of Physiotherapy, Marwadi University, Rajkot, Gujarat

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KEYWORDS

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ABSTRACT:

Introduction: People have a 70% likelihood of developing neck pain during their lives; thus, neck pain is an important issue affecting economic productivity in modern society. The upper trapezius is designated as a postural muscle and it is highly susceptible to overuse. Trapezitis is mainly caused due to stress and tension, repetitive movements, poor posture, prolonged head bending activity, using a thick pillow, tight pectoral major muscle, and severe neck spasms. Pain is classified in to three categories based on the duration of onset – Acute, Subacute, and chronic. When pain persist for about 22-84 days i.e. around 3 months it is classified as Subacute pain.

Objectives: To study and compare the effect of McKenzie approach and Scapular stabilization exercises on subjects with trapezitis on pain, and ROM of neck side flexion.

Methods: Total 30 subjects were selected for current study and were randomly allocated into Group A – Scapular stabilization exercise and Group B – McKenzie Exercise. Treatment was given for 10 session – 5 session/week for 2 weeks. At the end of the intervention protocol data for outcome measure – NPRS and Side-flexion ROM was taken.

Results: The result of current study suggest there is a significant improvement in pain and Range of motion of side-flexion, when comparison was done within groups having p value<0.05. similarly, when between group analysis was done significant difference was found between both the groups suggesting one treatment is superior to other.

Conclusions: when compared between the two groups the Statistically significant difference was found in both the group suggesting one technique is superior to other. Thus, accepting our alternate hypothesis. McKenzie Approach is found superior to Scapular stabilization exercises.

1. Introduction

People have a 70% likelihood of developing neck pain during their lives; thus, neck pain is an important issue affecting economic productivity in modern society.^[1] A common cause of neck pain is a mechanical dysfunction, which causes abnormal joint movement.^[1] Mechanical neck pain affects 45-54% of general population after carrying sitting posture for prolong period of time which may sometimes leads to conditions like Trapezitis.^[2] Trapezitis is defined as inflammation of upper, middle and lower fibres of trapezius muscle.^[3] Upper trapezius muscle is designated as postural muscle and it is highly susceptible to over use.^[4] Pain is classified in to three

categories based on the duration of onset – Acute, Subacute, and chronic.^[5] When pain persist for about 22-84 days i.e. around 3 months it is classified as Subacute pain.^[5] McKenzie method is one of the popular approaches to evaluating and treating subject with neck pain.^[6] This method is best known as a classification-based treatment approach, subject are evaluated using repeated end range cervical movement.^[6] Scapular stabilization exercises is crucial for treating neck discomfort.^[7] These exercises build up the muscle, increase the range of motion (ROM) and increase mobility, lowering the risk of recurring neck pain.^[7] Selection criteria were - Age: 18-25 years, Gender: Male and Female, Subjects with neck pain with pain in



trapezius muscle. Subjects having pain less than 3 months. Subjects who are willing to take part for treatment. Research suggested neck pain is very common condition, and there are many literatures available that study the effectiveness of McKenzie approach on ROM and pain. Also, Scapular stabilization exercises is an established treatment for ROM and pain. But very few literatures have compared effectiveness of both these approaches on pain and ROM in subjects with trapezitis. A study conducted by O'Leary et al. (2007), on suggested that recovering normal activation of serratus anterior is essential to retain normal posture and rehabilitation of neck and shoulder, thus scapular stabilization exercise reduces the pain and improves ROM.^[7] Also, another study done by RAGIA M (2023) on Effect of McKenzie Technique Combined with Ultrasound Therapy in Mechanical Neck Pain concluded that Adding McKenzie technique to US for patients with Mechanical Neck Pain could provide an additional improvement in neck pain, ROM and functional ability.^[8]

2. Objectives

The objective of the current study was to assess and compare the effectiveness of the McKenzie approach in reducing pain among subjects diagnosed with trapezitis. To evaluate and compare the effectiveness of scapular stabilization exercises in reducing pain among subjects diagnosed with trapezitis. To examine and compare the impact of the McKenzie approach on the range of motion for side flexion in subjects with trapezitis. To investigate and compare the impact of scapular stabilization exercises on the range of motion for side flexion in subjects with trapezitis. To determine any significant differences between the McKenzie approach and scapular stabilization exercises in alleviating pain among subjects with trapezitis. To determine any significant differences between the McKenzie approach and scapular stabilization exercises in improving the range of motion for side flexion among subjects with trapezitis. To contribute to the body of knowledge regarding the efficacy of the McKenzie approach and scapular stabilization exercises as interventions for trapezitis.

3. Methods

- Ethical permission was taken from departmental ethical committee. Procedure was explained to the subjects and written consent was taken.

The subjects were interviewed to collect demographic data including age, gender, duration of pain, type of work, etc. Total 30 subjects were selected who would fulfill the selection criteria. First of all, subjects were assessed for trigger point in trapezius muscle. Numerical pain rating scale for pain assessment. Range of motion for cervical contralateral side flexion assessment was done. 30 subjects were included according to selection criteria. Randomly divided into either Group A- Scapular stabilization exercise or Group B – McKenzie approach. For GROUP: A Scapular stabilization exercise was given, total 10 repetitions were given in 2 positions. This includes – Patient in prone lying position keeps their arm horizontally abducted in such a manner that palm faces the ground, then ask the patient to lift their arm up and down. For another position – patient in prone lying keep the arms in a Y position that is oblique and ask the patient to move it up and down. GROUP: B McKenzie approach was given for that - McKenzie cervical exercises including^[6], Head retraction: Hold for 10 secs for 10 repetitions Neck extension in supine position: 10 repetitions Neck extension in sitting: 10 repetitions. Left and right lateral bending: 10 repetitions. Head turning: 10 repetitions. Neck flexion in sitting: 10 repetitions, were given. This protocol was given for 2 weeks 5 days/week.

4. Results

The result of the current study was analysed using SPSS non-parametric test was used as normality was not followed. So, for within group analysis Wilcoxon test was used which suggest that there was significant decrease in pain and increase in ROM when comparison was done before and after the intervention. Comparison between both the group was done by Man-Whitney test which suggest that the Statistically significant difference was found in both the group suggesting one technique is superior to other. Thus, accepting our alternate hypothesis suggesting that McKenzie Approach is found superior to Scapular stabilization exercises.

5. Discussion

The current study was conducted to identify and compare the effectiveness of McKenzie approach and scapular stabilization exercises on pain and side flexion range of motion in subjects with trapezitis. The current study suggests that both the techniques are effective in



reducing pain and improving the ROM when pre-treatment data was compared to post treatment data within the groups, also when both groups were compared the statistics shows that McKenzie Approach is found superior to Scapular stabilization exercises. Current study is in accordance with the study done by Kang, Jeong-II et al. “Effect of scapular stabilization exercise on neck alignment and muscle activity in patients with forward head posture.” and concluded that the intervention has a positive effect on neck alignment by reducing the compensatory movements of the muscles involved in forward head posture. Structural changes are observed. Another study done by Moeen A. Khan supports the current study by concluding that in treating neck pain, the SSP (scapular stabilization program) effectively alleviates pain and improves disability and mobility^[11]

Also, another study done by RAGIA M on Effect of McKenzie Technique Combined with Ultrasound Therapy in Mechanical Neck Pain concluded that Adding McKenzie technique to US for patients with Mechanical Neck Pain could provide an additional improvement in neck pain, ROM and functional ability.^[12]

Conclusion of the current study is that McKenzie Approach is found superior to Scapular stabilization exercises in subjects with Trapezitis in improving Neck side flexion range of motion and pain. Hence this technique can be recommended to the patients.

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