

# Study of Combined Effect of Myofascial Release and Scapular Stabilization Exercises on Trapezitis in College Going Students

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## ABSTRACT

### Background:

Trapezititis is the term for trapezius muscle inflammation. One postural muscle that is especially susceptible to abuse is the upper trapezius. The pain and protective spasm in opposing muscle groups can make the passive range of motion (ROM) uncomfortable and restricted. Trapezitis causes a severe neck spasm; this muscle, which is near the base of the neck, helps with shoulder shrugging elevation. The prevalence is highest in middle age, and women are more affected than males. With a mean lifetime prevalence of 50% and a mean point prevalence of 13%, respectively, the prevalence of neck pain varies greatly between studies.

### Aims of the Study:

To study the combined effect of MFR and scapular stabilization exercises on trapezititis in college going students.

### Procedure:

Ethical clearance was obtained from Institution Ethical Committee. Total 88 participants were included in this study according to the inclusive criteria; participants were allocated by randomization method into two groups. GROUP A included 44 participants (Scapular stabilization exercises) and GROUP B included 44 participants (Myofascial release and scapular stabilization exercises) for 6 days in 2 weeks.

### Outcome Measures:

Numerical Pain Rating Scale, Pain Pressure Threshold device.

### Result:

Effect of GROUP A was assessed by using Paired t Test. Effect of GROUP B was assessed by using Paired t Test. Comparison between both GROUPs was done by using unpaired t Test. Results indicated statistically significant difference within the group for all parameters and statistically significant between group difference were found for NPRS SCALE, PPT DEVICE.

### Conclusion:

Both Myofascial Release and scapular stabilization exercises are effective in managing trapezititis. The combined approach produced better outcomes than MFR alone. MFR reduced soft tissue tightness, enhancing the benefits of exercise therapy. The combined intervention is more effective in reducing pain and improving functional outcomes in college-going students with trapezititis.

**Keywords:** Trapezitis, college going students, NPRS, Pain pressure threshold device, MFR, Scapula stabilization exercise

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## INTRODUCTION

Trapezius used to be referred to as a large neck and upper back muscle. The muscle's trapezoid shape gave rise to its name. Bands of muscle fibers comprise the trapezius. The superior, middle, and inferior muscle fiber bands make up the three bands.<sup>(1)</sup>

The trapezius muscle is one of two substantial superficial muscles that reach longitudinally from the occipital bone to the lower thoracic vertebrae and laterally to the spine of the scapula (shoulder blade).<sup>(2)</sup>

A prominent muscle in the cervical, thoracic, and shoulder regions is the trapezius. Clinicians and biomechanics interested in pathologies and modelling of either the shoulder girdle, the vertebral column, or both will find its anatomy and functioning useful. origin to sites of insertion of the trapezius is lower cervical fibres are illustrated as descending to the acromion, and horizontal fibres are illustrated passing from the first three thoracic spinous processes to the proximal half of the scapular spine is a prominent plate of bone. The uppermost part of the trapezius is attached to the lateral third of the clavicle and its middle part to the acromion and crest of the trapezius as having an upward action on the acromion but this is inconsistent with the majority of the anatomical literature (cited above) which stipulates that fibres that reach the acromion are orientated horizontally. The impression gained from this literature is that function precedes structure. The convention appears to be that the cervical trapezius must have an upward action on the shoulder girdle, and the muscle (or its line of action) is always drawn to suit this prescribed action.

<sup>(3)</sup> Trapezitis is the term used to describe trapezius muscle inflammation. As a postural muscle, the upper trapezius is especially prone to abuse.<sup>[1]</sup> The discomfort is persistent, gets worse when you exercise, and may spread from the original inflammatory site to other places. Because of the pain and protective spasm in opposing muscle groups, the passive range of motion (ROM) may be uncomfortable and restricted.<sup>(4)</sup>

Trapezititis is the term for trapezius muscle inflammation. One postural muscle that is especially susceptible to abuse is the upper trapezius. The

discomfort is persistent and exacerbates with physical activity; it may radiate from the original site of inflammation to neighbouring regions. The pain and protective spasm in opposing muscle groups can make the passive range of motion (ROM) uncomfortable and restricted. Trapezitis causes a severe neck spasm; this muscle, which is near the base of the neck, helps with shoulder shrugging elevation. Pain in the neck's upper trapezius muscle is common. At some point in their life, more than two-thirds of people have neck pain.<sup>(4)</sup> The prevalence is highest in middle age, and women are more affected than males. Neck pain is a very common condition, affecting more than two-thirds of individuals at some stage in their lives. It tends to occur more frequently in women, particularly during middle age, when the incidence peaks. Research findings on how widespread neck pain is can differ considerably, but on average, about 13% of people experience it at any given time, while roughly half of the population will encounter it at least once over their lifetime.

“Muscle strain can result from poor posture, prolonged stillness, repetitive activities, and physical or mental stress, especially during extended periods of sitting.” long periods of time without back support, using an excessively high desk keyboard, long rides on bicycles and cars, long head bending activities (such as reading, looking through microscopes, or practicing dentistry), tight pectoralis major and minor muscles, and activities involving abrupt one-sided movements are all common causes of the pain. It might also be triggered by stressful events.<sup>(4)</sup> Students' musculoskeletal health was negatively impacted by the transition from offline to online learning modes when studying at home became commonplace during the COVID-19 epidemic with the rise of online education, students are using electronic devices more frequently. gadgets to assist in their recreational and academic pursuits.

As a result, students who bow for extended periods of time at their workstations are more likely to experience neck pain. According to studies, neck pain is the main factor contributing to illness, poor focus, reduced educational achievement, and college students missing

classes. Therefore, early identification of the risk factors for neck discomfort is crucial for both early intervention treatment and prevention. <sup>(5)</sup> Treating trapezitis requires a multifaceted approach. It is planned to get rid of the taut bands soon.

Pain reduction using trigger points and tender points. Long term, the muscle needs to become more flexible. to reduce the likelihood of recurrence.

#### **MYOFASCIAL RELEASE TECHNIQUE**

“Myofascial release (MFR) is described as a treatment approach that promotes mechanical, neurological, and psychophysiological adaptations through its interaction with the myofascial system.” MFR treatment makes use of the Myofascial Complex. In myofascial release (MFR) therapy, the myofascial complex is targeted to help regain normal tissue length, reduce pain, and enhance overall function.

Myofascial release decreases discomfort, improves flexibility, and increases range of motion by breaking down adhesions with manual traction and prolonged muscle and fascia stretching. <sup>(6)</sup> Applying mild, continuous (MFR), a safe and very successful hands-on

method. limitation to get rid of discomfort and get movement back. By changing the ground substance's viscosity to a more fluid state, MFR relieves the fascia's excessive pressure on the pain-sensitive tissue and reestablishes correct alignment. <sup>(7)</sup> The unique function of connective tissue sheets is the foundation of the idea underlying the therapeutic effects of myofascial release.

"fascia"—as a primary determinant of musculoskeletal system performance. According to that hypothesis, the fascial system, which extends from the head to the toe, may act like an organ with many roles and capacities that significantly contribute to the body's dynamic characteristics. It is believed that tightened or stiffened fascial tissue or its decreased sliding ability (caused by either acute injury or recurrent microtrauma) is a source of tension to the rest of the body, resulting in pain and loss of functional ability. Myofascial release therapy is thought to be able to restore the length and sliding characteristics tissues by extending tight fascia, which also relieves pressure from the pain-sensitive structures and reestablishing joint motion. <sup>(8)</sup>

#### **Scapular stabilization exercises**

Exercises therapy known as scapular stability exercises (SSE) aims to improve scapular kinematics, increase muscle function, and restore scapular posture and mobility. <sup>(9)</sup>

Scapular stabilization exercises are effective in enhancing shoulder function by restoring the position, movement direction, muscle control. This exercises typically emphasize comprehensive stretching and strengthening of the per scapular muscles to address

muscle imbalance and enhance muscle action. <sup>(10)</sup>

Scapular stabilization exercises:

- Scapular squeeze
- Scapular retraction exercises
- Scapular retraction Y position
- Wall push up
- Table push up

#### **METHODOLOGY**

An Experimental study conducted at D.Y. Patil College Kolhapur. (Physiotherapy college) on college going students with Trapezitis. (18 to 25years age group) Simple random sampling (Computer Generator) method was used. Sample size: 88 Group A: 44, Group B :44

#### **MATERIALS**

Pain pressure threshold device, Numerical pain rating scale, Data collection sheet, Consent from.

#### **Inclusion criteria**

Male and Female and others

Young adults (18 to 25 age group)

Student who are experiencing trapezius pain.

#### **Exclusion criteria**

Recent injuries of neck and shoulder in young adults (18 to 25 age group).

Recent surgeries of neck and shoulder in young adults (18 to25 age group).

#### **PROCEDURE**

Ethical approval was secured from the Institutional Ethics Committee before the commencement of the study.

According to inclusive and exclusive criteria participants will be screened. “The participants in this study were college students. all ethical guidelines were strictly adhered to, including obtaining informed consent, ensuring voluntary participation, maintaining confidentiality, Participants was free to withdraw from the study at any point, and the procedure was clearly explained to them beforehand.

Prior written consent form from the participants was obtained

There will be 2 Groups each Group consisting of 88 participants Group A=44 and B = 44.

Pre-assessment value will be recorded before study is started.

The current study was design to determine the therapeutic effectiveness of myofascial release and Scapular stabilization exercise to improve quality of life and reduced pain intensity in young adults with trapezitis. The participants were assigned to two separate groups.

Group (A) (Scapular stabilization exercise) and Group (B) (Scapular stabilization exercise with Myofascial release technique) and 44 subjects in each group (Age group between 18 to 22 years).

#### **GROUP A**

#### **SCAPULAR STABILIZATION EXERCISES**

## Study of Combined Effect of Myofascial Release and Scapular Stabilization Exercises on Trapezius in College Going Students

Scapular squeezes  
Scapular retraction exercise  
Scapular retraction Y position  
Table push up's  
Wall press up

### Scapular squeezes:

**Position:** Sit or stand upright with arms relaxed by your sides.

**Movement:** Squeeze your shoulder blades together as if you're trying to hold a pencil between them.

**Hold:** Keep the squeeze for **5–10 seconds**.

**Release:** Slowly relax and return to the starting position.

**Repetition:** Repeat **10–15 times**, 2–3 sets per day. <sup>(9)</sup>

### Scapular retraction exercise:

#### Prone Y, T, and W Raise

Position yourself face down on a mat or a stability ball.

Raise arms into a "Y", "T", or "W" shape.

Concentrate on drawing your shoulder blades together.

**Muscles activated:** Mid/lower traps, rhomboids

**Reps:** 2 sets of 10–12 reps each position <sup>(10)</sup>

### 3. Wall press up:

#### Starting Position:

Stand approximately an arm's length away, facing the wall.

Place your palms on the wall at shoulder height and shoulder-width apart.

Keep your body straight from head to heels—like a plank, but standing.

#### Movement:

Inhale and slowly bend your elbows, bringing your chest toward the wall.

Keep elbows slightly tucked in (avoid flaring too wide).

Exhale and gently push back to the starting position.

#### Repetitions:

Start with **1–2 sets of 10 reps**, and increase as tolerated.

Perform **2–3 times a day**, especially if sitting for long hours. <sup>(11)</sup>

### Table push-ups: -

**Find a stable surface:** Use a table, desk, or any sturdy elevated surface that is about waist-height

**Position your hands:** Place your palms on the surface, slightly wider than shoulder-width apart. Your fingers should be pointing straight ahead or slightly outward.

**Set your body:** Position your body by stepping your feet back, creating a straight line from your head to your heels. Engage your core and ensure your hips do not drop.

**Lower your body:** Slowly bend your elbows to lower your chest toward the surface, making sure to keep your shoulders relaxed and keep distance from the ears. Avoid shrugging, as this can irritate the trapezius muscle.

**Push back up:** Push through your palms to straighten your arms and return starting position. Maintain a straight back and prevent your lower back from arching.

**Repetitions:** Start with 10-15 repetitions, and perform 2-3 sets. Adjust the number based on your comfort level. <sup>(12)</sup>

### Group B

### Myofascial Release with Scapula Stabilization Exercises

#### Myofascial Release

In this group subjects were given (MFR) Myofascial Release Technique and scapular stabilization exercise. Before the application of MFR technique subjects were to ask to expose the affected part, removed synthetic material and ornaments the participant was positioned lying on their back.

aqua sonic gel was applied over affected area. Therapist was standing behind the subject in walk standing position. Therapist placed left hand under subject's neck to stabilized proximal fibers of upper trapezius and maintain the subject's head <sup>(13)</sup>

In this group subjects were given (MFR) Myofascial Release Technique and HMP Before the application of MFR technique subjects were to ask to expose the affected part, removed synthetic material and ornaments. the participant was positioned lying on their back. aqua sonic gel was applied over affected area. The therapist remained in a standing position. <sup>(15)</sup>

Scapular retraction Y position

Table push up's

Wall press up

Scapular squeezes

#### **Scapular squeezes:**

**Position:** Sit or stand upright with arms relaxed by your sides.

**Movement:** Bring your shoulder blades together, imagining you are holding a pencil between them.

**Hold:** Keep the squeeze for **5–10 seconds**.

**Release:** Release: Gradually relax and return to the initial position.

**Repetition:** Repeat **10–15 times**, 2–3 sets per day. <sup>(9)</sup>

#### **Scapular retraction exercise:**

Position yourself prone on a mat or stability ball.

#### **Prone Y, T, and W Raise**

Raise arms into a "Y", "T", or "W" shape.

Bring your shoulder blades together, imagining you are holding a pencil between them.

**Muscles activated:** Mid/lower traps, rhomboid.

**Reps:** 2 sets of 10–12 reps each position <sup>(14)</sup>

#### **Wall press up:**

-Initial Position

- Stand facing the wall, keeping a distance of about one arm's length.

- Position your hands on the wall so that they are at shoulder height and spaced shoulder-width apart.

- maneuver:

-Inhale and slowly bend your elbows, bringing your chest toward the wall.

-Keep elbows slightly tucked in (avoid flaring too wide).

-Exhale and gently push back to the starting position.

- sets:

-Start with 1–2 sets of 10 reps, and increase as tolerated.

-Perform 2–3 times a day, especially if sitting for long hours. <sup>(11)</sup>.

#### **Table push – up:**

**Find a stable surface:** Use a table, desk, or any sturdy elevated surface that is about waist-height

**Initial placement of hands:** Place your palms on the surface, slightly wider than shoulder-width apart. Your fingers should be pointing straight ahead or slightly outward.

**Set your body:** Step your feet backward until your body aligns in a straight line from head to heels. Engage your core and ensure your hips remain level.

**Lower your body:** Slowly bend your elbows to lower your chest toward the surface, making sure to keep your shoulders relaxed and keep distance from your ears. Avoid shrugging, as this can irritate the trapezius muscle.

**Push back up:** Push back up: Press through your hands to extend your arms and return to the starting position, keeping your back straight and preventing your lower back from sagging.

**Repetitions:** Start with 10-15 repetitions, and perform 2-3 sets. Adjust the number based on your comfort level. <sup>(12)</sup>

## **RESULT**

The combined study of MFR and scapula stabilization exercises on trapezititis in college going students. However, there are two groups: group A and group B. Group A is the control group, while group B is the experimental group. in a group Group B received both MFR and scapular stabilization, while group A had only SSE. Both methods reduce pain, which is verified using the NPRS and a pain pressure algometer as outcome measures. However, group B is more productive than group A. It demonstrates that the combined approach outperforms the single method.

## **GENDER DISTRIBUTION**

Table 1 presents the gender distribution of the total participants. Among the 88 participants, 26 were male and 62

were female.

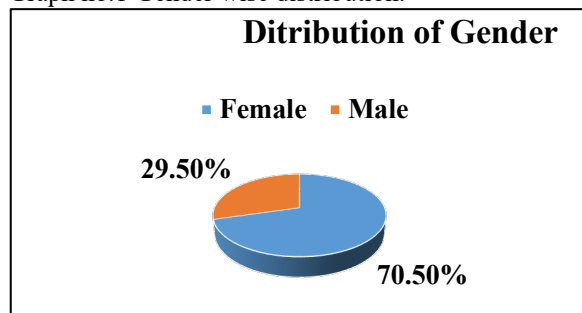
Graph 1 illustrates the percentage distribution, showing that females are accounted for 70.50% of the total, while males comprised 29.50%

| Variable | Group                                     | Mean  | S.D  | P-value |
|----------|-------------------------------------------|-------|------|---------|
| Age      | MFR GROUP                                 | 22.06 | 1.05 |         |
|          | MFR AND SCAPULA STABILIZATION EX'S GROUP. | 22.06 | 1.05 |         |

| GENDER DISTRIBUTION |           |            |
|---------------------|-----------|------------|
| Gender              | Frequency | Percentage |
| Female              | 62        | 70.50%     |
| Male                | 26        | 29.50%     |
| Total               | 88        | 100.00%    |

Table No.1 Gender distribution

Graph no.1 Gender wise distribution.



#### AGE WISE DISTRIBUTION

Table 2 presents the age-wise distribution of participants in **Group A** (MFR is given) **Group B** (MFR and scapular stabilization exercises id given) The mean age for group A and group B is 18 to 25 yrs. the (S.D is 1.50)

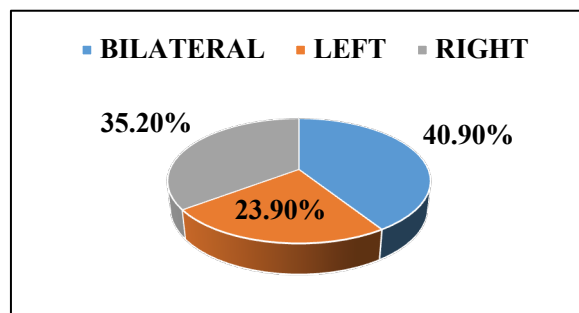
Graph 2 illustrates graphical representation of the mean ages, showing a similar distribution across both the groups indicating that age is evenly distributed among participants within the two exercise groups, as illustrated in the graphical comparison.

Table No. 2 Age Distribution

**Graph no.2 Age wise distribution.**

**C. Side wise distribution**

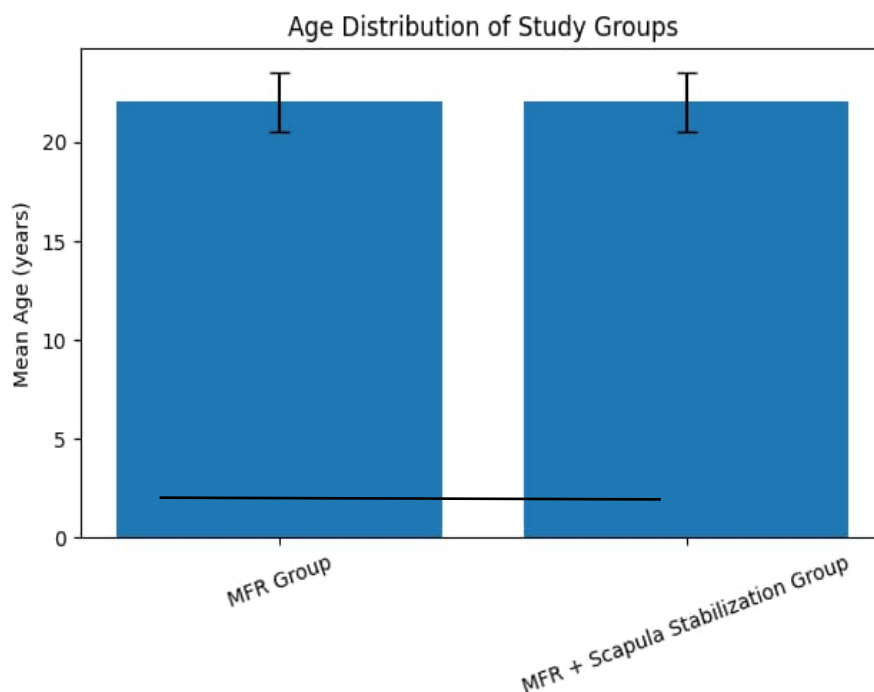
Table 3 represent side wise distribution of participant that is right, left and bilateral side. most of the participants having bilateral trapezius pain rather than the right and left side.



**Graph no.3 side wise distribution**

distribution

**Table No. 3 Side wise distribution**



**D. Pre and Post NPRS in group A.**

Table no 4 represent pre and post intervention of NPRS SCALE in group A (MFR) at rest and at movement. The results indicate that the median difference between pre-score at rest (S.D 1.51) and at movement (S.D 0.99) and post-intervention scores is at rest (S.D 1.48) at movement (S.D 1.15) with a significance level of  $<0.001^*$  leading to the rejection of null hypothesis.

**Hypothesis Test Summary**

|   | Null Hypothesis                                          | Test                          | Sig. <sup>a,b</sup> | Decision                    |
|---|----------------------------------------------------------|-------------------------------|---------------------|-----------------------------|
| 1 | The median of differences between Pre and Post equals 0. | Related-Samples paired t test | <.001               | Reject the null hypothesis. |

a. The significance level is <.001

b. Asymptotic significance is displayed.

Table No. 4a

Table No. 4b Pre-Post

Intervention of  
NPRS SCALE  
in Group A

Table No.  
4 Pre-Post

| Related-Samples Pair T Test Summary |                    |      |      |         |
|-------------------------------------|--------------------|------|------|---------|
| NPRS SCORE                          |                    | 44   |      |         |
| Test Statistic                      | Assessment         | Mean | S.D. | P-value |
| Parameter                           | period             |      |      |         |
| Standard Error                      | Test               |      |      |         |
| Statistic at                        | Pre                | 4.59 | 1.51 | <0.0    |
| Asymptotic test)                    | Sig. (2-sided Post | 3.11 | 1.48 | 01*     |
| NPRS at activity                    | Pre                | 8.00 | 0.99 | <0.0    |
|                                     | Post               | 6.52 | 1.15 | 01*     |

Intervention of  
NPRS SCALE in  
Group A

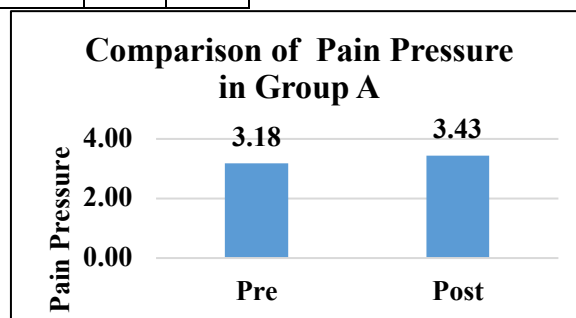
Graph no.4 pre-post Intervention of NPRS SCALE in group A

#### E. Pre and Post pain pressure in group A.

Table no 5 represent pre and post intervention of PAIN PRESSURE ALGOMETER VALUE The results indicate that the median difference between pre-score (S.D 0.50) and post-intervention scores (S.D 0.56) is with a significance level of <0.001\* leading to the rejection of null hypothesis.

| PAIN PRESSURE |                   |      |      |         |
|---------------|-------------------|------|------|---------|
| Parameter     | Assessment period | Mean | S.D. | P-value |
| Pain pressure | Pre               | 3.18 | 0.50 | <0.00   |
|               | Post              | 3.43 | 0.56 | 1*      |

Table No. 5 Pre-  
Post Intervention  
of PAIN  
PRESSURE in  
Group A



Graph no.5 Pre -Post Intervention of Pain Pressure in Group A

#### F.PRE & POST NPRS SCORE IN GROUP B

Table no 6 represent pre and post intervention of NPRS SCALE in group B (MFR And Scapula stabilization ex's) at rest and at movement. The results indicate that the significant improvement decreases the pre-score at rest (S.D 1.67) and at movement (S.D 1.34) and post-intervention scores is at rest (S.D 1.51) at movement (S.D 1.22) with a significance level of <0.001\* leading to the rejection of null hypothesis.

| Hypothesis Test Summary |      |                     |          |  |
|-------------------------|------|---------------------|----------|--|
| Null Hypothesis         | Test | Sig. <sup>a,b</sup> | Decision |  |

|                                          |                                                          |                               |       |                             |
|------------------------------------------|----------------------------------------------------------|-------------------------------|-------|-----------------------------|
| 1                                        | The median of differences between Pre and Post equals 0. | Related-Samples paired t test | <.001 | Reject the null hypothesis. |
| a. The significance level is <.001       |                                                          |                               |       |                             |
| b. Asymptotic significance is displayed. |                                                          |                               |       |                             |

Table No. 5a

| Related-Samples Pair T Summary |        |
|--------------------------------|--------|
| Total N                        | 44     |
| Test Statistic                 | 6.74   |
| Standard Error                 | 0.31   |
| Standardized Test Statistic    | 6.74   |
| Asymptotic Sig.(2-sided test)  | <0.001 |

Table No. 5b Pre-Post Intervention of NPRS SCALE in Group B

| NPRS SCORE       |                   |      |      |         |
|------------------|-------------------|------|------|---------|
| Parameter        | Assessment period | Mean | S.D. | P-value |
| NPRS at rest     | Pre               | 4.11 | 1.67 | <0.001* |
|                  | Post              | 2.18 | 1.51 |         |
| NPRS at activity | Pre               | 7.50 | 1.34 | <0.001* |
|                  | Post              | 5.25 | 1.22 |         |

Table No. 6 Pre-Post Intervention of NPRS SCALE in Group B

Graph no.6 Pre -Post intervention of NPRS SCALE in group B

#### G. Pre and Post pain pressure in group B

Table no 7 represent pre and post intervention of PAIN

PRESSURE ALGOMETER VALUE The results indicate that the significant improvement between pre-score (S.D 0.50) and post-intervention scores (S.D 0.56) is with a significance level of <0.001\* leading to the rejection of null hypothesis.

| PAIN PRESSURE |                   |      |      |         |
|---------------|-------------------|------|------|---------|
| Parameter     | Assessment period | Mean | S.D. | P-value |
| Pain pressure | Pre               | 3.34 | 0.59 | <0.001* |
|               | Post              | 3.75 | 0.52 |         |

Table No. 7 Pre-Post Intervention of PAIN PRESSURE in Group B

Graph no.7 Pre-Post intervention of PAIN PRESSURE in group B

#### Comparison of NPRS SCALE across the group

Table no.8 represent comparison of NPRS SCALE at rest and at movement across the both Group A and Group B, indicating that the score distribution is similar between both groups. The significance level of 0.001\* suggests that both interventions are equally effective.

| Hypothesis Test Summary                  |                                                          |                                 |                     |                             |
|------------------------------------------|----------------------------------------------------------|---------------------------------|---------------------|-----------------------------|
|                                          | Null Hypothesis                                          | Test                            | Sig. <sup>a,b</sup> | Decision                    |
| 1                                        | The median of differences between Pre and Post equals 0. | Related-Samples unpaired T test | <.001               | Reject the null hypothesis. |
| a. The significance level is . <.001     |                                                          |                                 |                     |                             |
| b. Asymptotic significance is displayed. |                                                          |                                 |                     |                             |

Table No. 8a

| Related-Samples Pair T Summary |      |
|--------------------------------|------|
| Total N                        | 88   |
| Test Statistic                 | 3.83 |

# Study of Combined Effect of Myofascial Release and Scapular Stabilization Exercises on Trapezitis in College Going Students

|                               |         |
|-------------------------------|---------|
| Standard Error                | 0.29    |
| Standardized Test Statistic   | 3.83    |
| Asymptotic Sig.(2-sided test) | <0.001* |

Table No. 8b Pre-Post

Intervention of NPRS SCALE in Group B

Table no.8 comparison intervention across the both group

Graph no.8 comparison intervention across the both group

## I. Comparison of pain pressure across the group

Table no.9 represent comparison of PAIN PRESSURE across the both Group A and Group B, indicating that the score distribution is different between both groups. The significance level of **0.007\*** interventions are equally effective. According to the significant value group A (S.D 0.56) and group B (S.D 0.52). group B is more effective than the group B Table no.9 intervention of PAIN PRESSURE across the group

| Parameters       | Group | Mean | Std. Deviation | p-value |
|------------------|-------|------|----------------|---------|
| NPRS at Rest     | A     | 3.11 | 1.48           | 0.004   |
|                  | B     | 2.18 | 1.51           | *       |
| NPRS at Activity | A     | 6.52 | 1.15           | <0.001  |
|                  | B     | 5.25 | 1.22           | 1*      |

subjects were recruited in the study age group of 18 – 25 yrs, divided into two groups 44 in each group. Group A will be controlling group. In group A will be given scapula stabilization ex's for 6 days /week given. Group B will be experimental group. In group B will be given MFR and scapula stabilization ex's for 6 days / week given.

Trapezititis is the inflammation of the trapezius muscle. which lead to pain and discomfort during the work or

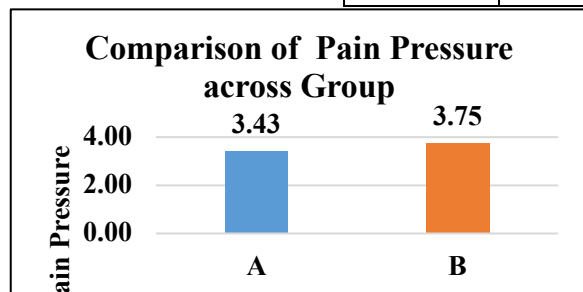
any activity. According to the prevalence trapztitis mainly occur in 18 to 25 age young adults.

According to the prevalence trapezititis is mainly occur in college going students or young adults. The upper trapezius muscle area of the neck frequently experiences pain. Neck pain affects over two-thirds of people at some point in their lives. Women are more impacted than men

in middle age, where the frequency is highest. The prevalence of neck discomfort varies significantly among studies, with a mean point prevalence of 13% and a mean lifetime prevalence of 50%, respectively. The pain typically results from overuse of the muscle in nonergonomic posture, working in a static position, tension, stress, repetitive motions, sitting for extended

periods without back support, using a desk keyboard that is too high, long rides on bicycles and cars, long head bending activities (reading, looking through microscopes, or practicing dentistry), tight pectoralis major and minor muscles, and activities with

| PAIN PRESSURE |       |      |      |         |
|---------------|-------|------|------|---------|
| Parameter     | Group | Mean | S.D. | P-value |
| Pain pressure | A     | 3.43 | 0.56 | 0.007*  |
|               | B     | 3.75 | 0.52 |         |



Graph no.9 Comparison of PAIN PRESSURE across the both group

## DISCUSSION

This study Aims is to study the combined effect of myofascial release and scapular stabilization exercises on trapezititis in college going students. A total 88

sudden one sided movements.

The pathogenesis of trapezititis could be explained as the areas of stressed soft tissue receiving less oxygen, glucose, and nutrient delivery, and subsequently accumulate high levels of metabolic waste products and end up with the development of Trigger Points (TP). Trigger points are hyperirritable foci combined with nodule or band palpated over the muscle belly. Simons and et all described criteria for identification of taut band in their study as “a tender spot on the taut band, referred pain or altered sensation at least 2 cm beyond the spot, elicited by pressure held for less than 10 seconds; and sometimes it may restrict cervical ROM in the joint”.

In this there are 2 outcome measure is used that is NPRS, Pain pressure threshold devices. Numerical

pain rating scale is the subjective assessment scale. It is used to measure intensity of the pain. The Numeric Pain Rating Scale (NPRS) is a self-reported pain scale in which patients rate their pain intensity on a numeric scale from 0 to 10.

**0 = No pain**

**10 = Worst possible pain**

#### **SCALE INTERPRETATION**

##### **Score Pain Intensity**

0 No pain

1–3 Mild pain

4–6 Moderate pain

7–10 Severe pain

The clinical use of NPRS is mainly used to assess the baseline of the pain, monitoring treatment effectiveness, comparing pre- post treatment outcome, evaluate pain at rest and pain at movement. In **trapezius**, which involves **inflammation or spasm of the trapezius muscle**, patients commonly experience:

Neck pain

Shoulder pain

Stiffness

Pain during movement

In this NPRS SCALE is used for monitoring the change in pain, and to measure the pain during the rest and during the activity. NPRS SCALE used for evaluate the effectiveness of the treatment for research purpose. NPRS SCORE is higher in pre-treatment and lower in the post treatment.

A Pain Pressure Threshold (PPT) device, commonly called a pressure algometer, is an instrument used in physiotherapy, rehabilitation, and pain research to measure the minimum amount of pressure that produces pain in tissues such as muscles, tendons, ligaments, and joints. The PPT device works on the principle of gradual mechanical pressure application. The probe is placed perpendicular to the tissue, Pressure is gradually increased at a constant rate, The patient indicates when the sensation changes from pressure to pain, The pressure value at that moment is recorded as the pain pressure threshold.

It is mainly used for myofascial trigger points assessment, neck pain, trapezius pain assessment, shoulder pain, low back pain. PPT is the objective assessment tool it helps clinicians objectively measure the tissue sensitivity and the treatment outcomes. most trapezius research studies, PPT is measured at, Upper trapezius trigger point, Midpoint between the C7 spinous process and acromion. Most tender point identified by palpation. The pressure algometer probe (usually 1 cm<sup>2</sup> rubber tip) placed perpendicular to the

muscle surface.

#### **CONCLUSION**

The present study demonstrates that the combined intervention of Myofascial Release (MFR) and scapular stabilization exercises is effective in managing trapezius among college-going students. The integrated approach significantly reduced pain intensity, improved functional ability, and enhanced range of motion compared to conventional or isolated treatments.

MFR helped in relieving muscle tightness and fascial restrictions, thereby decreasing pain and improving tissue flexibility. Simultaneously, scapular stabilization exercises contributed to better posture, muscle strength, and neuromuscular control of the shoulder girdle. The synergy of these interventions resulted in faster recovery and more sustained improvement.

Therefore, it can be concluded that combining MFR with scapular stabilization exercises is a beneficial and clinically effective treatment strategy for trapezius in college-going students, especially those affected due to poor posture and prolonged sedentary activities.

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