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# A Comparative Study Between Strain Counter Strain Technique and Neural Flossing Technique on Pain, Dysfunction, Cervical Range of Motion, And Postural Alignment In Patients with Trapezitis

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***Abstract:***
***Purpose:*** *To evaluate and compare the effects of the strain-counterstrain technique and neural flossing technique on pain, neck dysfunction, cervical ROM, and postural alignment in patients with trapezitis.*
***Methods:*** *A randomized controlled trial was conducted with 30 participants diagnosed with bilateral trapezitis. Subjects were randomly allocated into two groups: strain-counterstrain (SCS) and neural flossing (NF), using a convenience sampling method. Each group received a 2-week intervention (3 sessions per week, 30 minutes per session). Pre- and post-treatment assessments were made for pain, neck disability (NDI), cervical ROM, and postural alignment.*
***Result:*** *Both groups showed significant improvements in pain, neck dysfunction, cervical ROM, and postural alignment after the 2-week intervention. However, between-group analysis revealed no statistically significant differences between the strain- counterstrain and neural flossing groups. Notably, within-group analysis indicated that the SCS group showed superior improvement in cervical ROM compared to the NF group.*
***Conclusion:*** *The findings of this study suggest that both strain-counterstrain and neural flossing techniques are effective in reducing pain, improving neck dysfunction, cervical ROM, and postural alignment in patients with trapezitis. While no significant difference was observed between the two techniques overall, strain-counterstrain demonstrated better outcomes in enhancing cervical ROM. These results support the hypothesis that there is no significant difference between the two interventions in terms of overall effectiveness for pain, dysfunction, ROM, and postural alignment.*
***Keywords:*** *Trapezitis, strain-counterstrain, neural flossing, cervical range of motion, neck dysfunction, postural alignment, pain management*

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## I. Introduction:

Trapezitis, an inflammation of the trapezius muscle, is a common musculoskeletal condition, especially affecting the upper trapezius, a postural muscle prone to overuse [1]. The condition is often aggravated by activity and can manifest as pain in areas distant from the primary site of inflammation, sometimes even occurring at rest. The discomfort may lead to protective spasm in surrounding muscle groups, resulting in limited and painful passive range of motion (ROM) [2]. Depending on the duration, trapezitis may be classified as acute, subacute, or chronic, with subacute trapezitis typically lasting 1-3 months and acute trapezitis developing within a month [3].
Neck pain, particularly in the upper trapezius region, is prevalent in the general population, affecting up to two-thirds of individuals at some point in their lives. Women, particularly those in middle age, are disproportionately affected by this condition [4]. The underlying pathophysiology of trapezitis involves decreased blood flow to the

affected tissues, limiting the delivery of oxygen and nutrients while allowing metabolic waste to accumulate. This leads to the formation of tender points (TePs) and associated pain [3].

TePs, defined as small, dense, and hypersensitive areas found in muscles, fascia, or subcutaneous tissues, are a key feature of trapezitis and have been shown to contribute to hyperalgesia, limited ROM, and impaired functional movement [5]. These tender points, although distinct from myofascial trigger points, can be palpated during a physical examination, where localized pain is elicited by direct pressure, without referred pain or pain generation [5]. The identification of these points is crucial as they directly impact both ROM and functional ability.

Therapeutic interventions for trapezitis often focus on relieving pain and restoring function. The Strain Counterstrain (SCS) technique, first described by Jones in 1981, is a passive positional approach aimed at reducing musculoskeletal dysfunction and pain. The technique involves identifying a TeP in the affected soft tissue and positioning the patient in a posture that reduces the discomfort. This process is thought to engage both proprioceptive and nociceptive mechanisms to facilitate tissue relaxation and pain relief [6] Previous studies have demonstrated the effectiveness of SCS in reducing pain and improving ROM, especially in patients with upper trapezius dysfunction [7],[8],[9].

Another widely used intervention for musculoskeletal pain is Neural Flossing Technique (NFT), also known as neural gliding or neurodynamic mobilization. This technique is aimed at improving the mobility of peripheral nerves, addressing nerve entrapments or restrictions that contribute to pain and decreased ROM. Neural flossing has been shown to relieve pain, improve sensory symptoms, and enhance spinal flexibility [3]. Studies have indicated that neural flossing can increase ROM and reduce pain intensity, particularly in conditions involving nerve compression.

Although both SCS and NFT have demonstrated benefits in managing musculoskeletal disorders, it remains unclear which technique is more effective in improving pain, dysfunction, ROM, and postural alignment, specifically in the context of trapezitis. No prior study has directly compared these two modalities in this regard. To address this gap, the present study aims to compare the effects of the Strain Counterstrain technique and Neural Flossing technique on pain, neck disability, cervical ROM, and postural alignment in patients with trapezitis.

## II. Methodology:

**Participants:**

On the basis of inclusion and exclusion criteria, a total of 30 participants having bilateral trapezitus were chosen. Software G*power 3.1.9.7 was used to determine the sample size. Considering the effect size of 1.06, α prob err 0.05 and power 0.8, 30 participants were deemed to be required to test the study hypothesis. So, the final sample size considered in the present study was 30 participants (n=15 in each group). Both males and females between the age of 18 and 30 were chosen.

Subjects with bilateral trapezitus were chosen from Physiotherapy OPD of SGT University, Gurugram, Haryana. The study proposal was submitted to an ethical committee for approval, and the study was approved by the SGT University Institutional Ethical Committee (IEC) under the following SGT/FPHY/2022/

Study design was comparative. The subjects in the study underwent a basic assessment for pain, dysfunction, cervical range of motion and then they were randomly assigned into one of two groups: Group A- strain counter strain Group (n=15) and Group B- neural flossing (n=15). Data was gathered twice during the study: first at the beginning of the study and again at the end of the 3rd week after the intervention.

**Outcome Measures:**

NPRS was used to check pain; NDI was used to check condition specific functional status; Goniometer was used to check the cervical range of motion and lastly image j software was used to measure the craniovertebral angle.

Numeric pain rating scale (NPRS): Adults' pain intensity is measured using the Numeric Pain Rating Scale (NPRS), which is an outcome measure. A respondent uses the NPRS, a segmented numeric version of the visual analogue scale, to choose an integer from 0 to 10 that best describes the severity of their discomfort. According to Freeza, M. B. (1990), the NPRS is a reliable tool for assessing pain in rheumatoid arthritis patients, both literate and illiterate

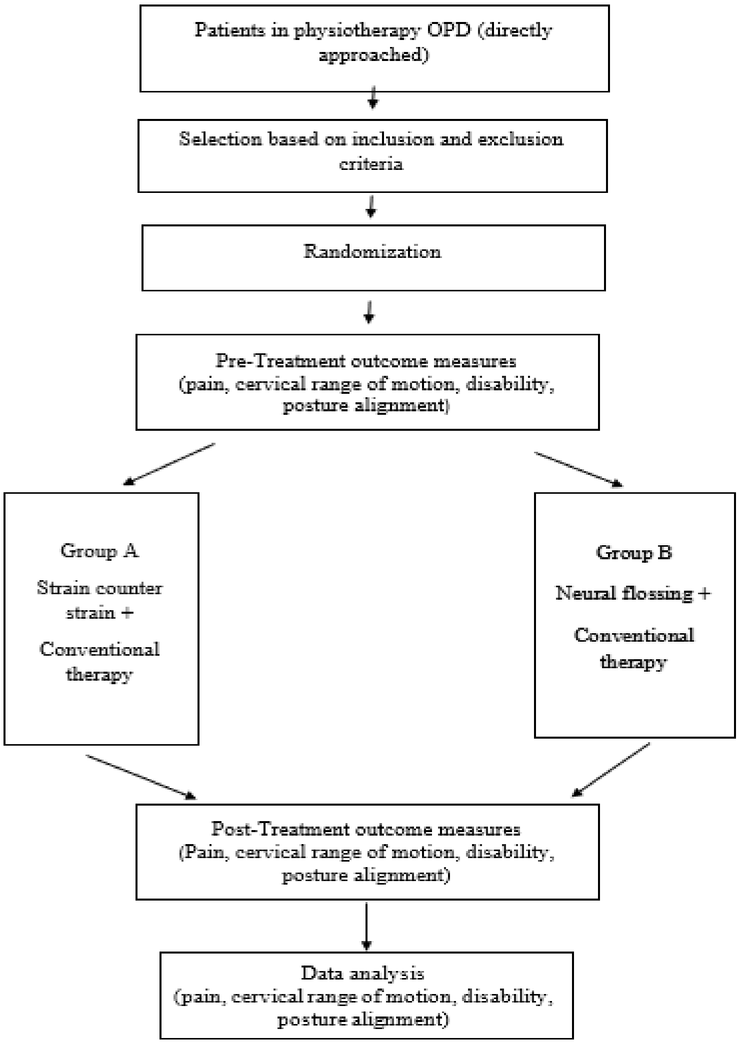
**Neck disability index:**

Ten items, including pain, personal care, lifting, reading, headaches, concentration, work, driving, sleeping, and recreation, are included in the patient-completed, condition-specific functional status questionnaire. The Oswestry Low Back Pain Disability Index has been modified to create the Neck Disability Index (NDI). The NDI is the most extensively used self-report measure for neck pain, and there is ample data to support and validate its use. In patients with mechanical neck pain, the NDI has a medium to moderate test-retest reliability, despite the fact that intraclass correlations might fluctuate between 0,50 and 0,98.

**Goniometer**
A goniometer is a tool that can be used to rotate an object to a specific position or measure an angle. The former description more accurately describes orthopaedics. Goniometry is the art and science of determining the joint ranges in each plane of the joint. According to Kobler M et al. (2012), the goniometer is a reliable tool for assessing shoulder mobility.

**Image j**
Image j is a type of software of version1.46j which is used to measure craniovertebral angle.

**Study Protocol:**




**Procedure:**
The entire method of the study was explained to the subjects before the start of the study, and informed consent was obtained prior to the procedure. On the basis of inclusion criteria, a total 30 participants having acute and subacute bilateral trapezitis were included, 16 male and 14 female between the age of 20 - 40, were chosen. All of the subjects in the study underwent a basic assessment for pain, cervical ROM, disability and postural alignment and then they were randomly assigned to one of the groups through convenience sampling method. Subjects were chosen from the physiotherapy OPD of SGT Hospital, Gurugram, Haryana.

**GROUP A-** Strain counter strain technique (n=15) with conventional physiotherapy and GROUP B – Neural flossing technique (n=15) with conventional physiotherapy. The treatment lasted for 2 weeks and consisted of 3 sessions on alternative days per week.

In Group A i.e., the strain-counterstrain technique, the individual was lying flat with the cervical spine neutral and the therapist seated on the side with the sore point. The subject's head was laterally flexed towards the tender point side passively, the therapist grasps the individual and raises their forearm, adducts their shoulder to a roughly 90-degree angle, and then adjusts the posture with a little flexion or extension. The therapist maintains contact on the tender point throughout the procedure and applies intermittent pressure over the tender point to monitor the reduction in the pain intensity. The ideal position (position of comfort) is determined subjectively by a reduction in the pain intensity to its minimum. This position of comfort was maintained for 90 seconds. After 90 seconds the subject was bought back to its original position passively and slowly. This technique is done on both sides.

In group B i.e., the Neural Flossing technique group, the subject was positioned in a sitting position and the therapist stood near the patient and guided the procedure. Under the therapist's supervision, the patient has to perform 90º flexion and retraction of the shoulder at the same time with pronation and contralateral flexion of the neck by this way, patient has to perform oscillation for 10 repetitions and this procedure was performed on both sides. the subject receives the procedure on alternate days for 2 weeks. Amplitude and speed were regulated so that the procedure did not cause any pain.

Now in both the groups, conventional therapy was given, which included hot pack for 20 minutes and passive stretching. In passive stretching, patient's position was sitting and therapist stretched the participant's neck via flexion, rotation, and lateral flexion on the other side while standing behind them. The distal clavicle and scapula were depressed with the other hand to provide a manual stretch and hold this whole stretching procedure for 10 seconds.

After the completion of 2 weeks of strain counter strain and Neural Flossing technique, the next day participants were analysed for pain, cervical range of motion, dysfunction, postural alignment and their values were noted for the comparison.

**Data Analysis:**

Data analysis was done by SPSS Software version 21. All of the variable's mean and standard deviation were determined. Tables and graphs were used to display the data's properties. At $p<0.01$, the results were considered statistically significant. Paired t-test was used to analyse intergroup differences in the Cervical range of motion and Craniovertebral angle. Wilcoxon signed rank test was used to analyse intergroup differences in NPRS and NDI. Independent sample t-test was used at baseline and at end of the 2nd week analyse and compare the intra-group differences for the variables Cervical range of motion and Craniovertebral angle. Mann - Whitney U-Test was used at baseline and the end of the 2nd week, to analyze and compared the intra-group differences for the variables NPRS and NDI.

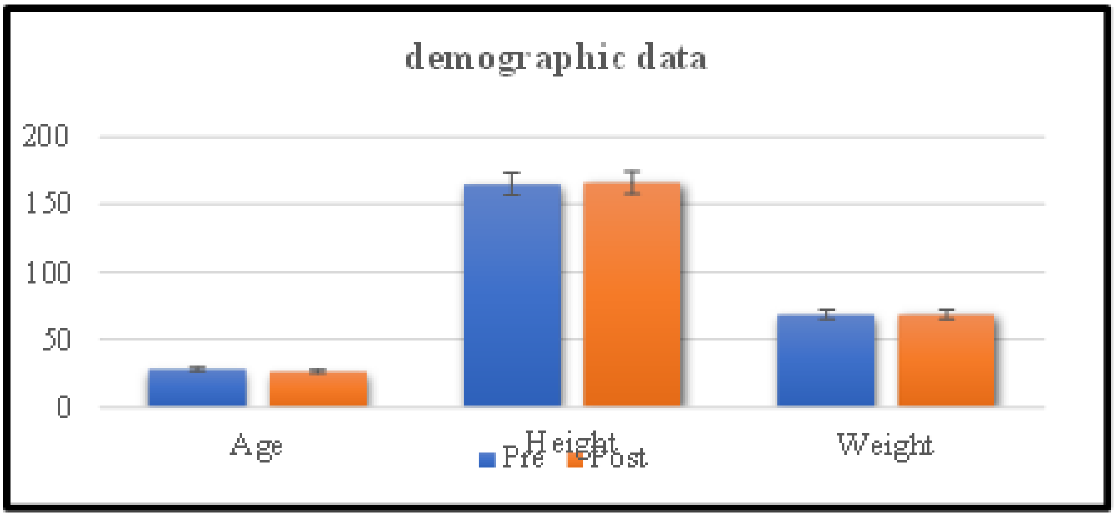
## III. Result:

**Mean of Age, Height, Weight and BMI in between the Group**

This study was done on 30 subjects who were equally divided into two groups, with 15 subjects in each group. The Mean Value of Age for subjects in Group A and Group B was 28.0667 and 26.2000 respectively. The Mean Value of Height for subjects in Group A and Group B was 165.13 and 166.46 respectively. The Mean Value of Weight for subjects in Group A and Group B was 68.73 and 68.86 respectively. (Table 5.1 and Graph 5.1)

**Table: 5.1 – Comparison of Mean Age, Height, Weight in between the Group**

| Variables | Group A Mean ±SD | Group B Mean ±SD |
|---|---|---|
| **AGE** | 28.06±4.317 | 26.200±3.820 |
| **HEIGHT** | 165.1±6.957 | 166.4±5.974 |
| **WEIGHT** | 68.73±7.657 | 68.86±5.617 |




**Changes in NPRS within Group A**

NPRS within Group A was analysed by Wilcoxon signed-rank test and which showed significant differences in Pain (p<.001). Graphical representation of mean comparison within group A showed significant differences. (Table 5.2 and Graph 5.2).

**Table 5.2- Wilcoxon signed-rank test within Group A**

| Variables | Mean±SD | | Z value | p value |
|---|---|---|---|---|
| | Pre | Post | | |
| NPRS | 6.53±0.915 | 2.66±1.046 | -3.4 | <.001 |

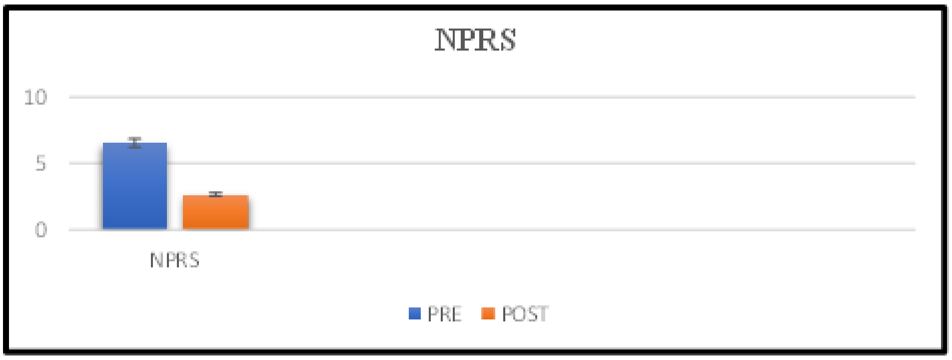



**Fig 5.3 NDI within group A**

**Changes in NDI within Group A**

Wilcoxon signed-ran test was used to analyse NDI within group A showed significant differences in Pain (p<.001). Graphical representation of mean comparison within group A showed significant differences.

**Table 5.3- Wilcoxon signed rank test within group A**

| Variables | Mean±SD | | Z value | P value |
|---|---|---|---|---|
| | Pre | Post | | |
| NDI | 24.40±2.32 | 16.80±2.366 | -3.4 | <.001 |

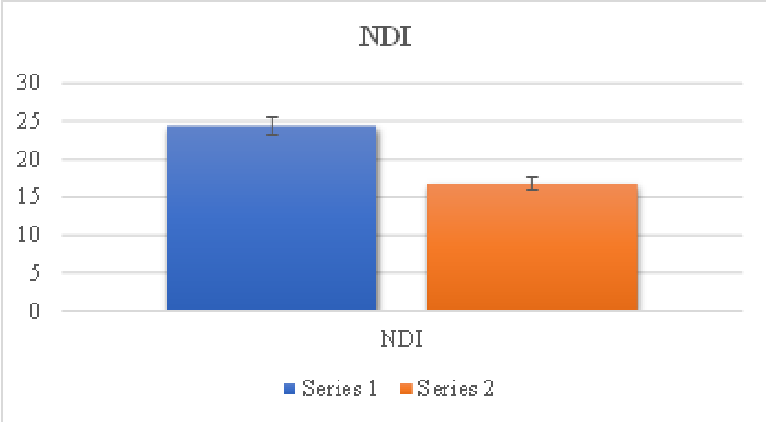



**Fig 5.3 NDI within group A**

**Change in cervical range of motion within group A**

Paired t-test was used to analyze CROM within group A and showed significant differences in Flexion (p<.001), extension (p <.001), lateral flexion right (p<.001), Lateral Flexion left (p<.001), Rotation Right (p<.001), Rotation Left (p<0.001). Graphical representation of mean comparison within group A showed significant differences.

**Table 5.4- Paired T- test within group A**

| Variable | Mean±SD | | t value | p value |
|---|---|---|---|---|
| | Pre | Post | | |
| Flexion | 50.06±10.22 | 56.93±9.93 | - 20.4 | <.001 |
| Extension | 48.40±6.06 | 55.13±6.17 | -25.25 | <.001 |
| Lateral flexion Right | 29.93±2.12 | 35.33±1.83 | -28.3 | <.001 |
| Lateral flexion Left | 30.33±3.65 | 35.33±3.66 | -19.3 | <.001 |
| Rotation Right | 50.66±5.88 | 57.00±5.81 | -19.8 | <.001 |
| Rotation Left | 51.26±6.04 | 57.93±6.35 | -21.9 | <.001 |

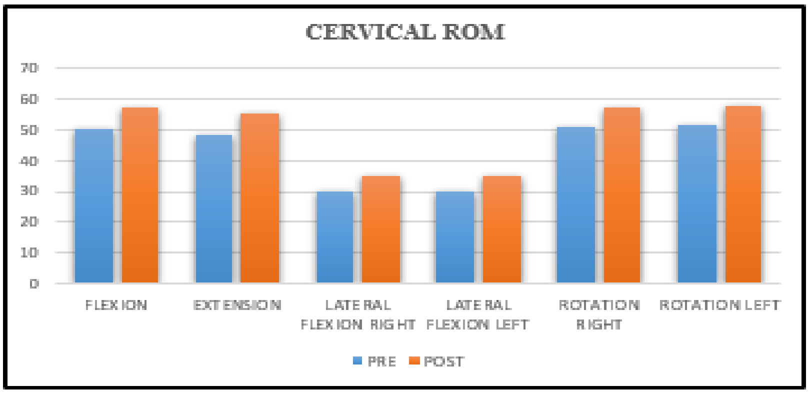



**Fig 5.4 Cervical ROM within Group A**

**Change in CVA angle within group A**

Paired t-test was used to analyse CVA within group A and showed significant differences in craniovertebral angle (p <.001). Graphical representation of mean comparison within group A showed significant differences.

**Table 5.6 Paired t-test within group A**

| Variable | Mean±SD | | t value | p value |
|---|---|---|---|---|
| Cranio vertebral angle | Pre | Post | -12.7 | <.001 |
| | 43.92±1.87 | 46.99±1.76 | | |

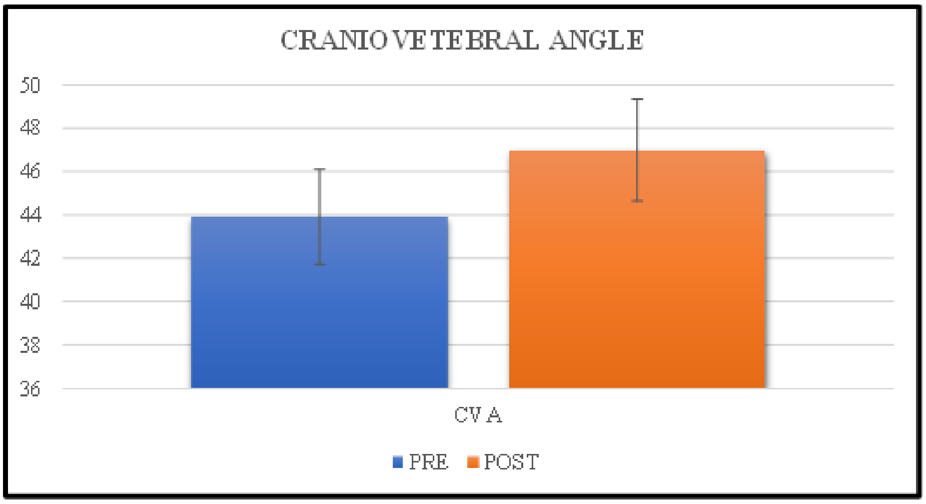



**Fig 5.6. craniovertebral Angle within the Group A**

**Changes in NPRS within Group B**

Wilcoxon signed rank Test was used to analyze NPRS within group B and showed significant differences in NPRS (p<.001). Graphical representation of mean comparison within group B showed significant differences.

**Table 5.8**- Wilcoxon signed rank test within group B

| Variables | Mean±SD | | Z value | p value |
|---|---|---|---|---|
| NPRS | Pre | Post | -3.45 | <.001 |
| | 6.56±0.935 | 3.00±1.0 | | |

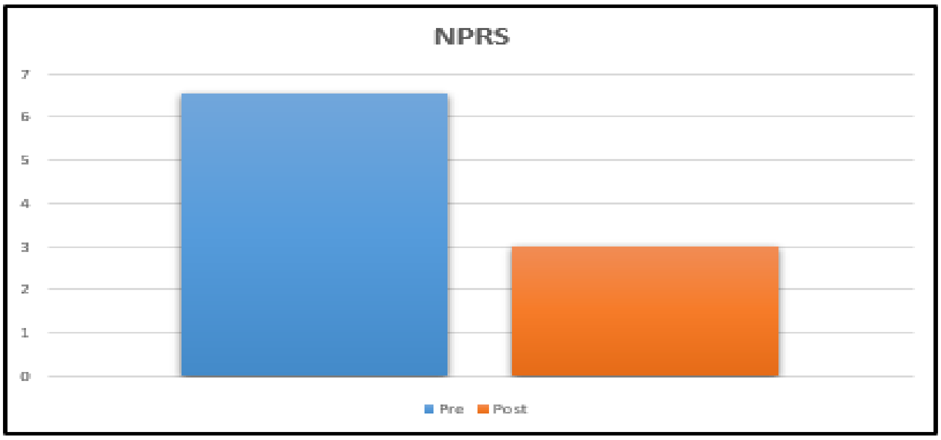



Fig 5.7 NPRS within Group B

**Change in NDI within Group B**

Wilcoxon signed rank Test was used to analyze NDI within group B and showed significant differences in NDI (p<.001). Graphical representation of mean comparison within group B showed significant differences.

| Variables | Mean±SD | | Z value | p value |
|---|---|---|---|---|
| NDI | Pre | Post | -3.44 | <.001 |
| | 23.70±2.19 | 17.40±2.0 | | |

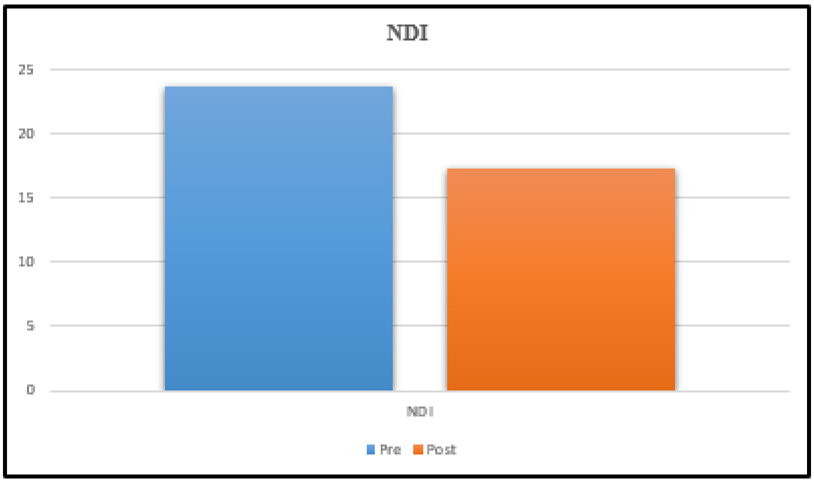



Fig 5.7 NDI within Group B

**Change in cervical range of motion within group B**

Paired t-test was used to analyse CROM within group B and showed significant differences in flexion (p<.001), extension (p<0.001), lateral flexion right (p<.001), lateral flexion left (p<.001), rotation right (p<.001), rotation left (p<.001). Graphical representation of mean comparison within group B showed significant differences.

**Table 5.9**- Paired T- test within group B

| Variable | Mean±SD | | t value | P value |
|---|---|---|---|---|
| | Pre | Post | | |
| Flexion | 53.53±6.53 | 58.00±5.78 | - 13.8 | <.001 |
| Extension | 49.73±4.84 | 53.73±4.57 | -15.4 | <.001 |
| Lateral flexion Right | 25.20±3.00 | 28.60±2.79 | -12.4 | <.001 |
| Lateral flexion Left | 26.00±3.79 | 29.73±3.73 | -13.14 | <.001 |
| Rotation Right | 53.20±4.81 | 57.26±4.99 | -12.8 | <.001 |
| Rotation Left | 52.86±5.74 | 56.20±5.85 | -10.9 | <.001 |

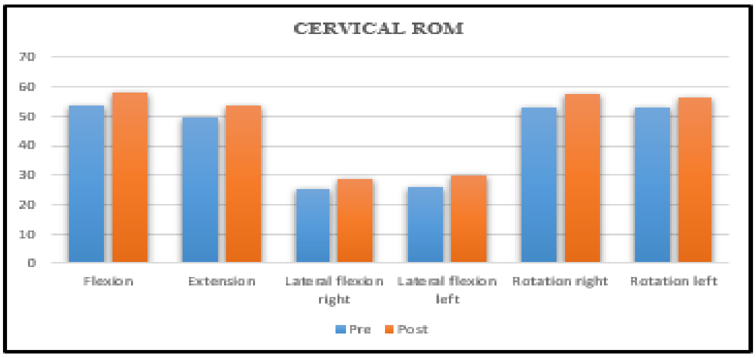



Fig 5.9 Cervical ROM within Group B

**Changes in CVA angle within group B**

Paired t-test was used to analyse CVA within group B and showed significant differences in craniovertebral angle (p<.001). Graphical representation of mean comparison within group B showed significant differences

**Table 5.10**- paired t-test within group B

| Variable | Mean±SD | | t value | p value |
|---|---|---|---|---|
| Cranio vertebral angle | Pre | Post | -11.8 | <.001 |
| | 44.56±2.12 | 47.03±2.25 | | |

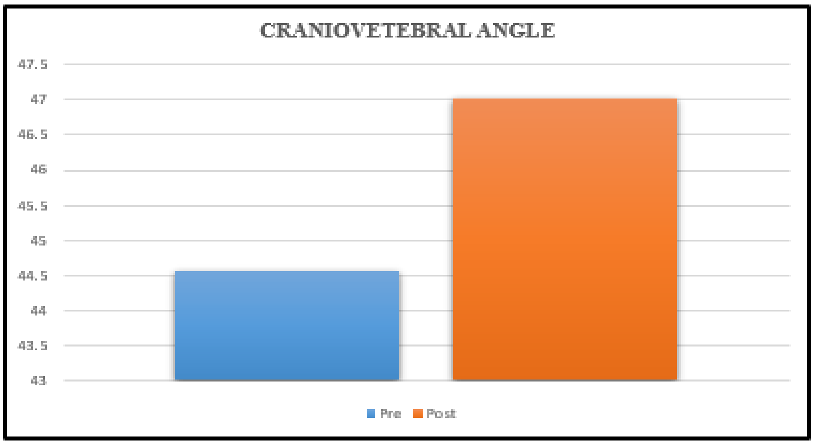



**Fig 5.10** Craniovertebral angle within Group B

**Changes in Numeric Pain Rating Scale between the Groups**

In order to compare the NPRS between groups A and B, the Mann- Whitney test was performed. and doesn't show any significant differences in NPRS. Graphical representation of mean comparison between group A and group B.

**Fig 5.11** Mann- Whitney test between the Groups

| Variable | | Mean ±SD | | Z value | p value |
|---|---|---|---|---|---|
| | | Group 1 | Group 2 | | |
| NPRS | Pre | 6.53±0.915 | 6.56±0.935 | - .174 | .862 |
| | Post | 2.66±1.046 | 3.00±1.0 | -1.59 | .111 |

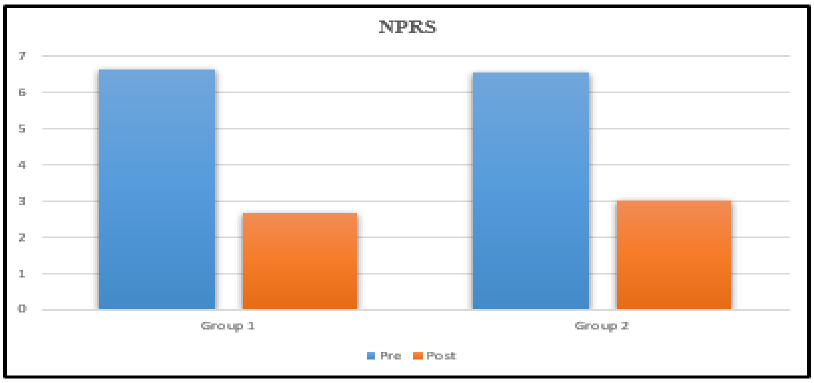



Fig 5.11 NPRS between the Group

**Changes in NDI between the Groups**
In order to compare the NDI between groups A and B, the Mann- Whitney test was performed. and doesn't show any significant differences in NDI. Graphical representation of mean comparison between group A and group B

**Table 5.12** Mann- Whitney test between the groups

| Variable | | Mean ±SD | | z value | P value |
|---|---|---|---|---|---|
| | | Group 1 | Group 2 | | |
| NDI | Pre | 24.40±2.32 | 23.70±2.19 | -1.82 | .069 |
| | Post | 16.80±2.366 | 17.40±2.0 | -1.51 | .130 |

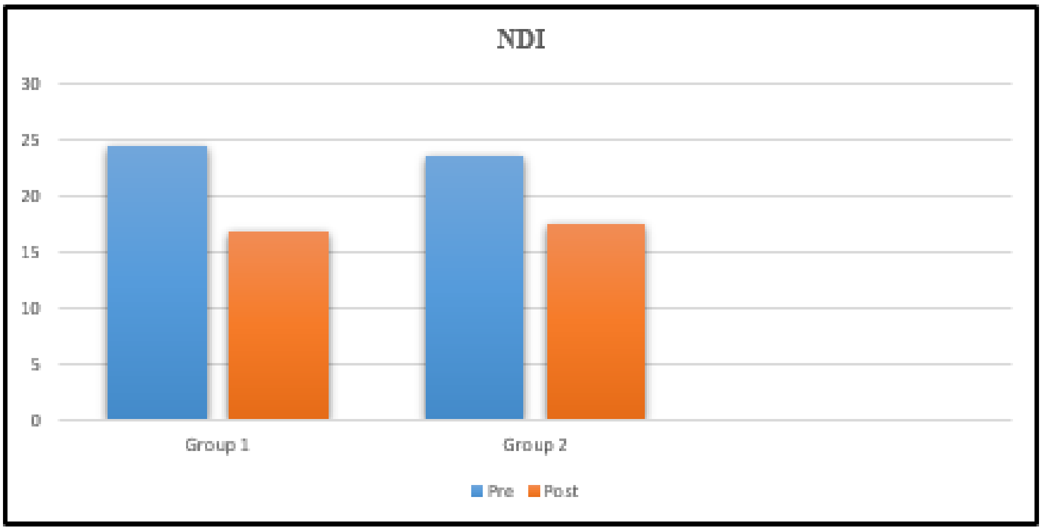
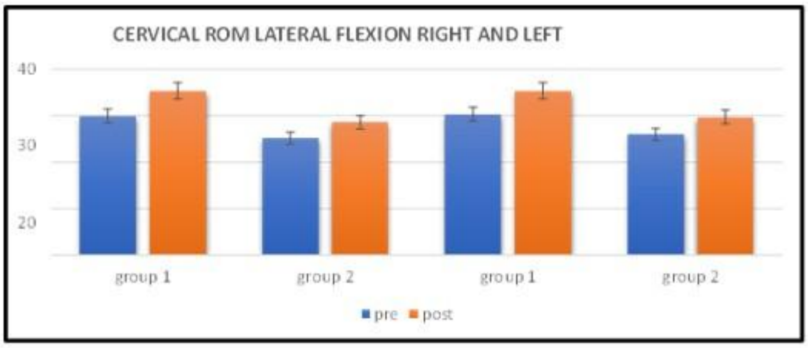


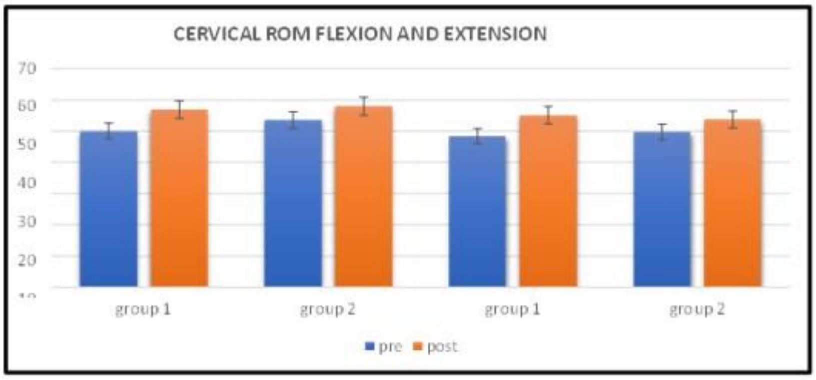

**Fig 5.12** NDI between the Groups

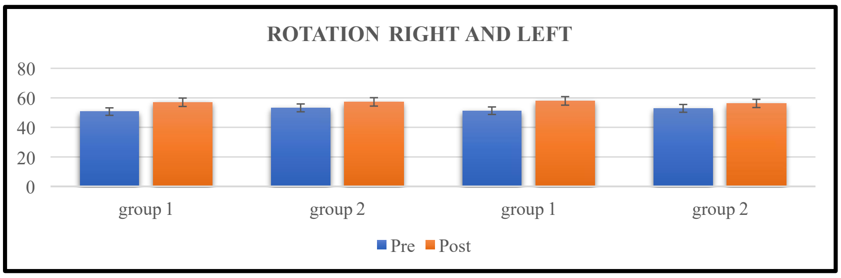
**Changes in Cervical Range of Motion**
Examining the difference in cervical ROM between groups A and B involved an independent t-test. and doesn't show any significant differences in CROM. Graphical representation of mean comparison between group A and group B.

**Table 5.13** Independent t test between the group

| Variable | | Mean±SD | | F value | P value |
|---|---|---|---|---|---|
| | | Group 1 | Group 2 | | |
| Flexion | Pre | 50.06±10.22 | 53.53±6.53 | 2.13 | .155 |
| | Post | 56.93±9.93 | 58.00±5.78 | 3.50 | .072 |
| Extension | Pre | 48.40±6.06 | 49.73±4.84 | .147 | .704 |
| | Post | 55.13±6.17 | 53.73±4.57 | .565 | .458 |
| Lateral flexion Right | Pre | 29.93±2.12 | 25.20±3.00 | 1.26 | .270 |
| | Post | 35.33±1.83 | 28.60±2.79 | 2.93 | .098 |
| Lateral flexion Left | Pre | 30.33±3.65 | 26.00±3.79 | .054 | .818 |
| | Post | 35.33±3.66 | 29.73±3.73 | .000 | .990 |
| Rotation Right | Pre | 50.66±5.88 | 53.20±4.81 | .264 | .611 |
| | Post | 57.00±5.81 | 57.26±4.99 | .336 | .56 |
| Rotation Left | Pre | 51.26±6.04 | 52.86±5.74 | .762 | .390 |
| | Post | 57.93±6.35 | 56.20±5.85 | 1.00 | .326 |



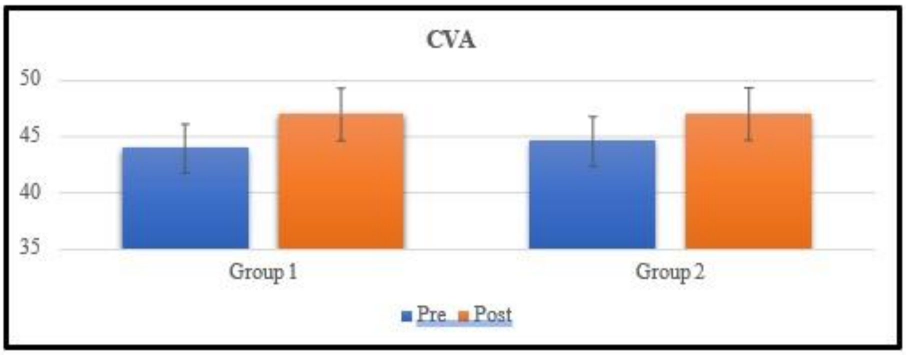






**Changes in Cranio vertebral angle**

Independent t-test was used to analyse Craniovertebral angle between group A and group B and doesn't show any significant differences in CROM. Graphical representation of mean comparison between group A and group B

| Variable | | Mean ±SD | | F value | P value |
|---|---|---|---|---|---|
| | | Group 1 | Group 2 | | |
| CVA | Pre | 43.92±1.87 | 44.56±2.12 | .898 | .351 |
| | Post | 46.99±1.76 | 47.03±2.25 | 1.01 | .324 |




## IV. Discussion:

**Purpose and main findings of the study:**

The primary objective of this study was to compare the effectiveness of the Strain Counterstrain (SCS) technique and Neural Flossing Technique (NFT) in alleviating pain, reducing neck disability, improving cervical range of motion (ROM), and enhancing postural alignment in patients with upper trapezitis. The findings indicated that while both interventions led to significant within-group improvements in all measured variables, no significant differences were found between the SCS and NFT groups.

**Pain (NPRS) and Neck Disability (NDI)**

The results of this study showed significant within-group improvements in both pain and neck disability, as measured by the Numeric Pain Rating Scale (NPRS) and the Neck Disability Index (NDI), for both the SCS and NFT groups. The Studies reported a significant reduction in pain and neck dysfunction in patients with upper trapezius tenderness following two weeks of SCS combined with stretching [8,11]. Furthermore, the SCS technique was more effective in improving pain and neck disability when compared to Kinesio taping in patients with myofascial neck pain syndrome. Similarly, the neural flossing significantly reduced pain (as measured by Visual Analog Scale, VAS) and improved neck function in patients with neck pain. These findings support the use of both SCS and NFT as effective interventions for reducing pain and improving neck function in individuals with upper trapezitis [12,13,14].

**Cervical Range of Motion (ROM)**

Both SCS and NFT techniques were found to significantly improve cervical ROM within each group. The results of this study are consistent with previous research indicating that SCS and other manual therapy techniques can enhance cervical ROM by alleviating musculoskeletal pain and reducing muscle stiffness. Gohl et al. (2020)

demonstrated significant improvements in cervical ROM following the use of SCS for the treatment of myofascial trigger points in the upper trapezius [15]. Likewise, Paul et al. (2018) observed improved cervical ROM in patients undergoing a combination of SCS and stretching. The NFT technique may improve cervical ROM by increasing neural extensibility [8], which enhances nerve mobility and reduces tension around neural tissues [16,17,18]. Other benefits of NFT, such as improved nerve gliding and reduced adhesions, likely contribute to enhanced cervical ROM by reducing neural restrictions [9]. These mechanisms, along with the reduction of pain, likely account for the observed improvements in cervical mobility. Additionally,[19] demonstrated that SCS was effective in improving cervical lateral flexion in individuals with trapezitis, further supporting the efficacy of SCS in restoring cervical ROM.

**Postural Alignment (Craniovertebral Angle)**

Regarding postural alignment, significant improvements were observed within both the SCS and NFT groups as measured by the craniovertebral angle (CVA). This finding suggests that both therapeutic interventions were effective in improving the posture of individuals with upper trapezitis. SCS may help correct abnormal postural patterns by addressing neuromuscular imbalances and promoting more optimal muscle function. Research has shown that SCS can influence neuromuscular activity via muscle spindles, improving circulation and reducing inflammation, which may contribute to better postural alignment [20]. Additionally, studies on neural mobilization techniques like NFT have shown that such interventions can improve neural mobility, reduce intraneural edema, and enhance tissue perfusion [21,22], which may also positively impact postural control.

**Comparison Between Groups**

Although both interventions led to significant improvements within groups, the comparison between the SCS and NFT groups revealed no statistically significant differences in the outcomes of pain, neck disability, cervical ROM, and postural alignment. This finding is in line with previous research, there is no significant difference between spinal accessory nerve mobilization and integrated neuromuscular inhibition techniques in the treatment of pain and cervical lateral flexion. However, our study did show a slight advantage of the SCS technique over NFT in improving cervical ROM. This could be attributed to the mechanism of SCS, which resets muscle fibers through the passive positioning of the affected tissues, potentially facilitating greater improvements in cervical mobility.

## V. Conclusion:

The study's findings show that, over the course of two weeks, patients with trapezitis can benefit from improvements in pain, neck dysfunction, cervical range of motion, and postural alignment using both the Strain Counterstain (SCS) and Neural Flossing (NFT) techniques. The study's findings show that over the course of two weeks, patients with trapezitis can improve their pain, neck dysfunction, cervical range of motion, and postural alignment using both the Strain Counterstrain (SCS) and Neural Flossing (NFT) techniques.

The Strain Counterstrain technique demonstrated a slight advantage in improving cervical range of motion when compared to Neural Flossing, despite the fact that both interventions produced notable improvements. However, there was no discernible difference in overall effectiveness between the two techniques.

Since there were no statistically significant differences between the two groups in terms of pain, cervical range of motion, neck dysfunction, or postural alignment, the research hypothesis (H03) was confirmed. These results imply that clinicians can use both Strain Counterstrain and Neural Flossing to help patients with upper trapezitis manage their pain, improve neck function, increase cervical range of motion, and regain postural alignment.

According to the study's findings, both methods can be suggested as successful treatments for trapezitis patients' rehabilitation, giving therapists a selection of practical methods for dealing with these prevalent musculoskeletal problems.

**Limitation of the study**

1. Small Sample Size: A limited sample size may reduce the generalizability of the results.
2. Short-Term Follow-Up: The study only evaluated short-term effects (2 weeks), and long-term outcomes remain unclear.
3. Subjective Pain Measurement: Pain was assessed using self-reported scales, which may introduce bias.
4. No Follow-Up: The absence of follow-up assessments limits insights into the durability of treatment effects.
5. Potential Instrumental Error: Minor instrumental errors may have affected measurement accuracy.

**Future Scope of Study**

1. Large sample size can be taken in the future to see better results.
2. Follow-up needs to be taken in the future

## References

[1] A.Kumaresan, G.Deepthi, Vaiyapuri Anandh,And S.Prathap (2012). Effectiveness Of Positional Release Therapy In Treatment Of Trapezitis. International Journal Of Pharmacutical Science And Health Care

[2] Alagesan J, Shah Us. Effect Of Positional Release Therapy And Taping On Unilateral Upper Trapezius Tender Points. International Journal Of Health And Pharmaceutical Sciences. 2012; 1(2):13-7.

[3] Kage, V.; Gurav, G. Effect Of Neural Flossing Technique On Pain, Cervical Range Of Motion And Functional Ability In Subjects With Acute, Sub-Acute Trapezitis: An Experimental Study. Int. J. Appl. Res. 2017,3, 818–822.

[4] Choudhary, Shumaila & Hussain, Dr.Mohammed & Moscovitch, Adam & Pandi-Perumal, Seithikurippu R. & Bahammam, Ahmed. (2018). Multimodal Physiotherapy Improves Pain, Functional Disability, Sleep Quality And Health Related Quality Of Life In Chronic Mechanical Neck Pain Patients.

[5] Mulla Nm, Kulkarni P, Kumar A. Immediate Effect Of Strain Counterstrain Technique Versus Muscle Energy Technique On Upper Trapezius Tenderness In Nonspecific Neck Pain. International Journal Of Science & Healthcare Research. 2021; 6(2): 289-298.

[6] Korr Im (1975) Proprioceptors And Somatic Dysfunction. Journal Of The American Osteopathis Association Mark Bailey, Lorane Dick (1992) Nociceptive Considerations In Treating With Counterstrain

[7] Dardzinski Ja, Ostrov Be, Hamann Ls. Myofascial Pain Unresponsive To Standard Treatment. Successful Use Of A Strain And Counterstrain Technique With Physical Therapy. J Clin Rheumatol 2000;6:169—74. 10.

[8] Wong Ck, Schauer-Alvarez C. Effect Of Strain/Counterstrain On Pain And Strength In Hip Musculature. J Man Manip Ther 2004;12:215—2398.Paul, J., & Balakrishnan, P. (2018). Effect Of Strain Counter Strain Technique And Stretching In Treatment Of Patients With Upper Trapezius Tenderness In Neck Pain. International Journal Of Physiotherapy, 5(4), 141-144

[9] Sharma S, Balthillaya G, Rao R, Mani R. Short Term Effectiveness Of Neural Sliders And Neural Tensioners As An Adjunct To Static Stretching Of Hamstrings On Knee Extension Angle In Healthy Individuals:A Randomized Controlled Trial. Phys Ther Sport. 2016;17:30–7

[10] Cleland Ja, Childs Jd, Whitman Jm.. Psychometric Properties Of The Neck Disabilityindex And Numeric Pain Rating Scale In Patients With Mechanical Neck Pain, Arch Phys Med Rehabil. 2008; 89(1):69-74

[11] Collins Ck, Masaracchio M, Cleland Ja. The Effectiveness Of Strain Counterstrain In The Treatment Of Patients With Chronic Ankle Instability: A Randomized Clinical Trial. J Man Manip Ther. 2014 Aug;22(3):119-28. Doi: 10.1179/2042618614y.0000000069. Pmid: 25125933; Pmcid: Pmc4101550

[12] Dr. Vijay Kage And Gayatri Gurav (2017) Effect Of Neural Flossing Technique On Pain, Cervical Range Of Motion And Functional Ability In Subjects With Acute, Sub-Acute Trapezitis: An Experimental Study. International Journal Of Applied Research 2017; 3(7): 818-822

[13] Ellis Rf, Hing Wa. Neural Mobilization: A Systematic Review Of Randomized Controlled Trials With An Analysis Of Therapeutic Efficacy. J Man Manip Ther. 2008;16(1):8-22. Doi: 10.1179/106698108790818594. Pmid: 19119380; Pmcid: Pmc2565076.

[14] Ferraz Mb, Quaresma Mr, Aquini Lr, Atra E, Tugwell P, Goldsmith Ch. Reliability Of Pain Scales In Assessment Of Literate And Illiterate Patients With Rheumatoid Artheritis . J Rheumatol 1990:17:17:1022-4.

[15] Gohil D, Vaishy S, Baxi G, Samson A, Palekar T, Effectivness Of Strain-Counter Strain Technique Verses Digital Ischemic Compression On Myofascial Trigger Points . Arch Med Health Sci 2020-8-191-5.

[16] Goldenberg D. Fibromyalgia, Chronic Fatigue Syndrome And Myofascial Pain Syndrome. Current Opinion In Rheumatol 1993;5:199—208.

[17] Jeba, Chitra & Joshi, Diker. (2016). Comparison Of The Effect Of Neural Mobilization And Kinesio Taping On Pain And Quality Of Life In Subjects With Sciatica -A Randomized Clinical Trial. International Journal Of Sports Physical Therapy. 2. 19-23. 10.11648/J.Ijnpt.20160203.11

[18] Kolber Mj, Hanney Wj. The Reliability And Concurrent Validity Of Shoulder Mobility Measurements Using A Digital Inclinometer And Goniometer: A Technical Report. Int J Sports Phys Ther. 2012 Jun;7(3):306-13. Pmid: 22666645; Pmcid: Pmc3362980

[19] Abdelfattah, O. Kattabei, S. Nasef,Strain Counter-Strain Technique Versus Kinesio Tape In Treating Patients With Myofascial Neck Painsyndrome, Annals Of Physical And Rehabilitation Medicine,Volume 61, Supplement,2018,Page E111,Issn 1877-0657

[20] Marks, Miriam & Schöttker-Königer, Thomas & Probst, A.. (2011). Efficacy Of Cervical Spine Mobilization Versus Peripheral Nerve Slider Techniques In Cervicobrachial Pain Syndrome- A Randomized Clinical Trial. Journal Of Physical Therapy. 4. 9-17.

[21] Meseguer, Albert & Fernández-De-Las-Peñas, César & Navarro-Poza, Jose & Rodriguez-Blanco, Cleofas & Gandia, Juan. (2006). Immediate Effects Of The Strain/Counterstrain Technique In Local Pain Evoked By Tender Points In The Upper Trapezius Muscle. Clinical Chiropractic. 9. 112-118. 10.1016/J.Clch.2006.06.003.

[22] Mitra M, Gaikwad N. The Effect Of Straight Leg Raises With Lumbar Stabilization Exercises In