



## IMMEDIATE EFFECT OF MYOFASCIAL RELEASE TECHNIQUE VERUS STRAIN-COUNTERSTRAIN TECHNIQUE IN UNILATERAL TRAPIZITIS IN WOMEN OF AGE GROUP 20-40 YEARS.

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### Abstract:

**Background:** Neck pain is a common problem in the general population with prevalence between 10% to 15%. The prevalence of neck pain between 67% to 87% is usually seen in middle aged groups. Neck pain is known to be multifactorial. Women are more affected than men.

**Objective:** This study has been undertaken to compare the immediate effect of myofascial release technique versus strain-counterstrain technique in unilateral trapezitis in women of age group 20-40 years.

**Materials and Method:** 64 subjects were selected with simple random sampling method fulfilling inclusion and exclusion criteria and were randomly divided into 2 groups. Group A receiving Strain counterstrain technique and Group B receiving Myofascial release technique.

**Result:** Statistical analysis was done using Paired T-test. Numeric Pain Rating Scale (NPRS), Cervical lateral flexion (Cervical ROM) and Neck Disability Index (NDI) among Myofascial Release Technique (MFR) was found to be more significant (p value: <0.0001). Unpaired t-test was found to be significant with improvement in Numeric Pain Rating Scale (NPRS), Cervical lateral flexion (Cervical ROM) and Neck Disability Index (NDI) with a mean difference of 2.625, 2.9375, 20.75 respectively in group A and a mean difference of 3.75, 5.125, 26.875 respectively in group B.

**Conclusion:** This study concluded that Myofascial release technique is more effective with an immediate effect than Strain Counterstrain technique on unilateral trapezitis in women with age group 20-40 years.

**Index Terms** - Numeric Pain Rating Scale (NPRS), Cervical lateral flexion (Cervical ROM) and Neck Disability Index (NDI), Myofascial Release Technique (MFR), Strain Counterstrain Technique (SCS), Myofascial trigger points (MTrPs).

### I. INTRODUCTION

The trapezius muscle is a large superficial back muscle which resembles an inverted triangle which starts at the base of the skull, spreads over the shoulders and down to the mid back. Trapezius muscles help with the function of neck rotation, lateral flexion and extension. Trapezius pain is the classic stress pain and it is the most common musculoskeletal disorder. It is usually caused by placing too much stress or strain over the trapezius muscle. Trapezitis is an inflammatory pain arising from the trapezius muscle causing a severe neck spasm.<sup>(1)</sup> The upper trapezius muscles are designated as postural muscles and are highly susceptible to overuse. The pain is present even during rest and is aggravated by activity. Skin and the tissue temperature are raised at the site of the lesion. This occurs due to increased blood flow due to dilatation of capillaries. Passive range of motion may be painful and restricted due to pain.

Neck pain is very common in the region of the upper trapezius muscle.<sup>(2)</sup> Highest prevalence is seen in middle aged groups. Women are more affected than men. Neck pain prevalence varies widely in different studies, with a mean point prevalence of 13 % (range 5.9% – 38.7 %) and mean lifetime prevalence of 50 % (range 14.2% – 71.0 %). The percentage of Indian population to be affected with neck pain depends on the work environment and posture that is acquired all day long. The Ratio of prevalence in males and females in India is 1:10. Roughly two thirds of the general population have neck pain at some time in their lives.

Trapezitis pain occurs due to faulty posture during walking, watching time, prolonged use of mobile phone, fatigue, stress, tension, forward head posture, sitting for prolonged periods of time etc. The upper trapezius is often placed in a shortened position by poor ergonomics which creates shortness in the muscle.

Muscle spasm occurs early after injury. This feels like tightness in the muscles and is sometimes painful. When basic injury is not treated, spasm causes formation of muscle knots, called trigger points. The knots form because the spasm keeps the muscle continuously "on". As

muscles are not designed for this continuous work, over a period the muscle gets overloaded and forms these knots. As a result treatment of the spasm is necessary to reduce this problem.

Trigger point is defined as hyperirritable spot in skeletal muscle that is associated with a hypersensitive palpable nodule in a taut band. The spot is painful on compression and can give rise to characteristic referred pain, referred tenderness.<sup>(3)</sup> Most commonly found at the midpoint of the upper border of the muscle. Overloading and injury of muscle tissue lead to involuntary shortening of localized fibers. The areas of stressed soft tissue receive less oxygen, glucose, and nutrient delivery, and subsequently accumulate high levels of metabolic waste products. The end result of this cascade of events is the creation of altered tissue status, pain, and the development of Trigger point.<sup>(4)</sup>  
**Strain-counterstrain technique:** Strain-counterstrain technique or positional release therapy is a passive positional intervention aimed at relieving musculoskeletal pain and related dysfunction. It is one of several treatment approaches where positioning of the body is used to evoke a therapeutic effect. The classical description of this technique was made by Jones in 1981.<sup>(3)</sup> SCS has also been utilized in the manual treatment of trigger points. This approach involves identification of the active trigger points, followed by the application of pressure until a nociceptive response is produced. The area is then positioned in such a manner as to reduce the tension in the affected muscle and subsequently the pain in the trigger points. When the position of ease/pain reduction is attained, the stressed tissues are felt to be at their most relaxed and a local reduction of tone is produced.<sup>(4)</sup>

**Myofascial Release technique:** Myofascial release is a soft tissue mobilization technique defined as the facilitation of mechanical, neural and psychological adaptive potential as interfaced via the myofascial system. Myofascial release technique (MFR) is a safe and very effective hands-on technique that involves applying gentle sustained pressure into the myofascial connective tissue restriction to eliminate pain and restore motion. By MFR there is a change in the viscosity of the ground substance to a more fluid state which eliminates the fascia's excessive pressure on the pain sensitive structure and restores proper alignment. This technique acts as a catalyst in the reduction of the trapezius spasm.<sup>(1)</sup> The purpose of Myofascial Release is to break down scar tissue, relax the muscle and myofascia and restore good posture. Myofascial Release techniques focus on relaxing the deep tissue of the body providing lasting and effective relief to the client and patient.

Previous Studies have found that Strain/counterstrain technique or positional release therapy is useful in alleviating the neck pain and improve the functional ability. Bailey & Dick (1992) proposed a hypothesis that tissue damage in dysfunctional muscles can be reduced by the positional release mechanism utilized by SCS. They suggest that relaxation of the damaged tissues may be achieved by placing patients in a position of ease which may advance local perfusion of fluids (i.e. blood, and lymph) and enhance the removal of sensitizing inflammatory mediators.

## Materials and Methodology

Materials and Methods which were used in our study were- Pillows, Pen, Paper, Goniometer, Consent form and Marker Pen. The Outcome measures included assessment Numeric Pain Rating Scale (NPRS), Cervical Lateral Flexion and Neck Disability Index (NDI). Individuals with unilateral upper trapezius Trigger Points in women of age group 20-40 years were included in the comparative study. The subjects were chosen by Simple Random Sampling method. The study was conducted in Dr Vasanttrao Pawar Medical College and Research Centre Nashik (Physiotherapy OPD).

Thereafter, patients were randomly divided into two groups; group A (Strain Counterstrain Technique) and group B (Myofascial Release Technique) with 32 women subjects in each group. The subjects underwent any one of the technique and pre and post outcome measures were assessed immediately. The subjects were women of age group 20-40 years with pain of atleast 3 on numerical pain rating scale, Jump sign characterized by patients vocalization or withdrawal, Taut band palpable in the upper trapezius muscle, Reproduction of subject's pain on palpation, Participants willing to participate and Pain on unilateral trapezitis; Working at home or at various jobs. The exclusion criteria for this study were History of trauma to spine or neck or shoulder region within 6 months, History of surgery to spine or shoulder within 6 months, Congenital or acquired spinal deformities which bother activity of daily living, Individuals with healing fractures over neck and upper back region, Dermatitis over upper back or subjects having an active inflammation.

## Statistical Tools –

Data was analyzed using Paired t test and unpaired t test. The values within the group were compared using paired t test. The values between the group were compared using unpaired t test.

## GROUP A: (STRAIN-COUNTERSTRAIN TECHNIQUE)

### PROCEDURE

The part to be treated was well exposed. Palpation of the trigger point that elicited pain directly over the affected area and/or cause radiation of pain toward a zone of reference and a local twitch response was done. The trigger point was marked by a surface marker.

The subjects were positioned in supine position with cervical spine in neutral, with the therapist standing on trigger point side. The subjects head was laterally flexed towards the trigger point side passively.

The therapist grasped the subjects arm and elevated it in abduction and external rotation (above 90°). Therapist maintained contact on the trigger point throughout the procedure and applied gradually increasing pressure over the trigger point by one or two finger pads to monitor the reduction in the palpable tone of trigger point and reduction in the pain intensity.

Dosage: one repetition

Duration: 90 seconds

After 90 seconds the subject was brought back to original position passively and slowly.



Strain-Counterstrain technique marking and position of subject.

#### GROUP B: (MYOFASCIAL RELEASE TECHNIQUE)

##### PROCEDURE

Palpation of the trigger point that elicited pain directly over the affected area and/or cause radiation of pain towards a zone of reference and a local twitch response was done

**Patient Position:** In this technique the patient sat in forward lean position.

**Therapist position:** The therapist stood behind the patient. One hand kept pressure on the origin of the muscle stabilizing it while the other hand was dragged to the insertion with pressure thus releasing the myofascia of the upper trapezius by using ulnar border of both the palms, for three times, each holding for 90 seconds just until resistance (tissue barrier) is felt.

**Dosage:** Three times with 10 seconds rest in between

**Duration:** Hold for 90 seconds

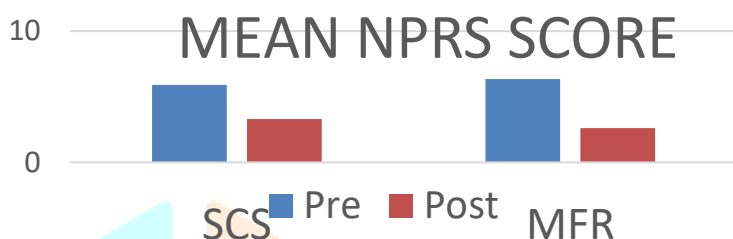


Myofascial Release technique in forward lean position

**DATA ANALYSIS**

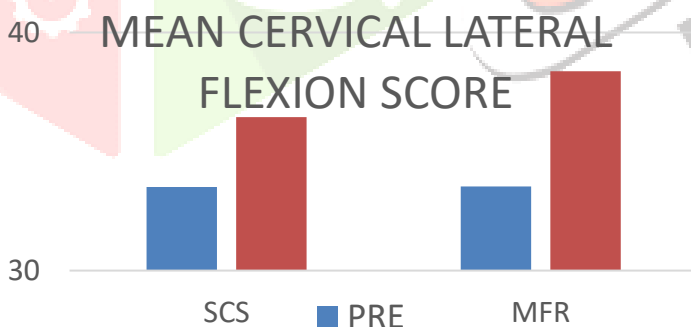
1) NUMERIC PAIN RATING

NPRS	SCS		MFR		P-value (intergroup)	T-value
	Mean	SD	Mean	SD		
Pre	5.90625	±1.253624	6.34375	±1.285386	0.1730	1.378
Post	3.28125	±1.373349	2.59375	±1.266424	0.0415	2.082
P-value (intragroup)	<0.0001		<0.0001			



2) CERVICAL LATERAL FLEXION

CERVICAL LATERAL FLEXION	SCS		MFR		P-value (intergroup)	T-value
	Mean	SD	Mean	SD		
Pre	33.5	±1.983805	33.53125	±2.663788	0.9577	0.05322
Post	36.4375	±1.848059	38.375	±3.414863	0.0064	2.823
P-value (intragroup)	<0.0001		<0.0001			

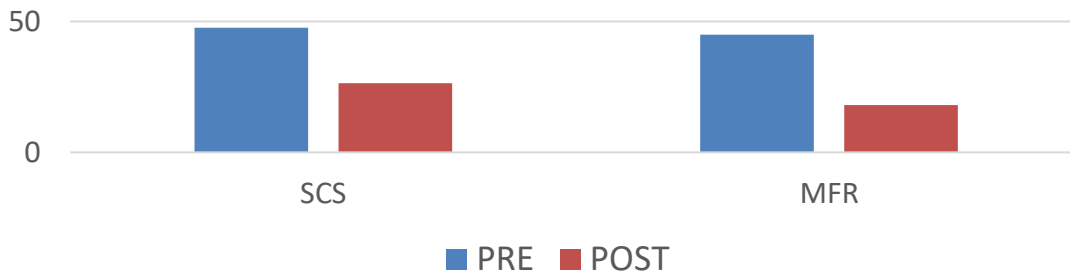


3) NECK DISABILITY INDEX

NDI	SCS		MFR		P-value (intergroup)	T-value
	Mean	SD	Mean	SD		
Pre	47.5	±11.92449	45	±10.1727	0.3704	0.9023
Post	26.4375	±10.53087	18.125	±6.908387	0.0004	3.734
P-value (intragroup)	<0.0001		<0.0001			



## MEAN NECK DISABILITY INDEX SCORE



### RESULT

The results of the study showed that myofascial release technique and strain counterstrain technique had an immediate effect to decrease pain, improve cervical lateral flexion and decrease neck disability index but when both techniques were compared, it was found that MFR is more effective than SCS. The study was conducted on 64 subjects. Both the groups had 32 subjects each. When NPRS was analyzed within SCS group the results were statistically significant improving from a mean of 5.90625 prior to treatment to 3.28125 post treatment therefore showing decrease in pain after the treatment.

When NPRS was analyzed within MFR group the results were statistically significant improving from a mean of 6.34375 prior to treatment to 2.59375 post treatment therefore showing decrease in pain after the treatment.

When Cervical lateral flexion ROM was analyzed within SCS group the results were statistically significant improving from a mean of 33.5 prior to treatment to 36.4375 post treatment therefore showing increase in cervical lateral flexion range after the treatment.

When Cervical lateral flexion ROM was analyzed within MFR group the results were statistically significant improving from a mean of 33.53125 prior to treatment to 38.375 post treatment therefore showing increase in cervical lateral flexion range after the treatment.

When Neck Disability Index was analyzed within SCS group the results were statistically significant decreasing from a mean of 47.5 prior to treatment to 26.4375 post treatment therefore showing decrease in neck disability index after the treatment.

When Neck Disability Index was analyzed within MFR group the results were statistically significant decreasing from a mean of 45 prior to treatment to 18.125 post treatment therefore showing decrease in neck disability index after the treatment.

### DISCUSSION

The study intended to Compare the Immediate effect of Myofascial Release versus Strain Counterstrain technique in unilateral trapezitis in women with age group 20-40 years on basis of numerical pain rating scale, cervical lateral flexion and neck disability index.

In this study, 64 subjects who had complaints of neck pain with spasm were selected for this study following simple random sampling method. The subjects were divided into two equal groups, 32 subjects in each group. The subjects in Group A received Strain-Counterstrain Technique whereas the subjects in group B received Myofascial Release Technique.

Overall results of this study showed improvements in the outcome measures immediately after both treatments. From the data analysis of this study, it was found that there is statistically significant difference between Myofascial release technique and Strain counterstrain technique. Myofascial release technique was seen to have more effect as compared to strain counterstrain technique in outcome measures of numerical pain rating scale, cervical lateral flexion, and neck disability index. Therefore the hypothesis of the study was accepted and the alternative hypothesis was rejected.

This study recruited subjects with active Trigger points in upper trapezius muscle as it is most frequently affected and commonly cited in clinical settings. The upper trapezius muscle plays an important role in the stability and mobility of the neck region. Formation of trigger points in upper trapezius gives rise to specific pain patterns either in the neck, shoulder and upper limbs.<sup>(5)</sup>

In the strain-counterstrain technique, the involved tissue is "slackened" causing a relaxation of the "spasm". Following this there was an immediate reduction of pain and tension in the involved tissue.<sup>(1)</sup> It aimed at removing restrictive barriers of movement in the body. This is accomplished by decreasing protective muscle spasm, fascial tension, joint hypomobility, pain and swelling and increasing circulation and strength. As a result the patient began to move more easily, with less pain and discomfort.<sup>(2)</sup> It also acts on the muscle spindle mechanism and its associated reflex mechanism (which controls spasm) to promote a more normal firing of the spindle and a more normal level of tension in the muscle, which results in a more normal relationship within the various soft tissue surrounding the area. These techniques worked to reduce the hyperactivity of the myotatic reflex arc and to reduce the overwhelming afferent nerve impulses within the arc that may lead to an overflow of neurotransmitters into the associated dermatome, resulting in referred pain. This phenomenon is known as a "facilitated segment". Strain counterstrain sets the stage for normal process to occur more efficiently. Reduction in localized spasm increased range of motion, decreased pain, allowed normal circulation and improved lymph drainage and increased the potential for more normal biomechanics.<sup>(3)</sup>

Myofascial trigger points (MTrPs) as the presence of exquisite tenderness at a nodule in a palpable taut band of muscle. Trigger points can be most commonly seen in the setting of occupational due to muscle imbalances, postural deficiencies, or secondary to another underlying pathological process.<sup>(2)</sup> The myofascial release method engaged the myofascial tissue "restrictive barrier" (tension). The tissue was loaded with a constant force until release occurred.<sup>(1)</sup> By MFR there was a change in the viscosity of the ground substance to a more fluid state which eliminated the fascia's excessive pressure and restored proper alignment.<sup>(2)</sup> When Myofascial Release was used on the trigger points, local chemistry changed due to blanching of the nodules followed by hyperaemia. This flushes out the muscle inflammatory exudates and pain metabolites, breaks down the scar tissue, desensitizes the nerve endings and reduces muscle tone.<sup>(7)</sup>

Dardzinski J A (2000) found a reduction of pain and an increase in neck function of 50%-100% in 19 of 20 patients immediately after SCS therapy. The partial improvement was maintained for six months in 11 of 20 patients, and four were still pain-free. This shows that SCS technique is effective to reduce pain and improve the range of motion.

October 2002 Hou CR., et al. studied immediate effects of various physical therapeutic modalities on cervical myofascial pain and trigger-point sensitivity. They suggested that therapeutic combinations such as hot pack plus active ROM and stretch with spray, hot pack plus active ROM and stretch with spray as well as TENS, and hot pack plus active ROM and interferential current as well as myo-fascial release technique, are most effective for easing trigger points pain and increasing cervical ROM. This study used combination of hot pack with any technique whereas we used specifically one technique to know its individual effectiveness.

Ekta S. Chaudhary conducted the comparative study of the Myofascial release technique and cold pack in the upper trapezius spasm. By MFR there was a change in the viscosity of the ground substance to a more fluid state which eliminated the fascia's excessive pressure on the pain-sensitive structure and restored proper alignment. This technique acted as a catalyst in the reduction of the trapezius spasm. This study concluded MFR showed greater significant improvement in VAS and ROM. This study correlated with our study but this study used cold packs instead of Strain Counterstrain Technique.

Varsha C. Shabir Sheikh conducted a study of the immediate effect of Strain counterstrain technique in the immediate relief of trapezius in sitting job professionals, results suggested that strain counter strain technique was effective in reducing tenderness and trigger points in the upper trapezius in sitting job professionals. This study showed effectiveness by SCS technique and our research study also showed effectiveness in reducing trigger points of upper trapezius.

The researchers used NPRS scale (for the assessment of pain) as the first outcome measure for both the groups, where the researchers found that there is significant improvement in Group A patients whose pre-test mean value was 5.90625 and this decreased to mean value of 3.28125 by the end of treatment with  $p < 0.0001$ . The Group B pre-test mean value was 6.34375 and decreased to a mean value of 2.59375 by the end treatment with  $p < 0.0001$ .

Further the researchers have used Universal Goniometer (for the assessment of active cervical lateral flexion range of motion) as the second outcome measure for both the groups, where the researchers found that there is significant improvement in both the groups, but the patients with Group B found to have statistically more improvement in active cervical lateral flexion ROM, pre-test mean value of 33.5 and increased to 36.4375 by the end of treatment with  $p < 0.0001$ , whereas Group B patients for active cervical lateral flexion range of motion pre-test mean value was 33.53125 and increased to 38.375 by the end of treatment with  $p < 0.0001$ .

Further the researchers used Neck Disability index (for the assessment of functional disability of the neck region caused due to the trigger points) as the third outcome measure for both the groups, where the researchers found that there is significant improvement in both the groups, but the patients with Group B found to have statistically more improvement in NDI score, pre-test mean value of 45 and decreased to 18.125 by the end of treatment with  $p < 0.0001$ .

The comparison between Group A and Group B, the NPRS score. With the mean value of 2.625 in Group A and mean value of 3.75 in Group B where in the p value was 0.0415 which is considered to be statistically significant. The comparison between Group A and Group B, the Active Cervical lateral flexion with the mean value of 2.9375 in Group A and mean value of 5.125 in Group B where in the p value was 0.0064 which is considered to be statistically significant. The comparison between Group A and Group B, the NDI score. With the mean value of 20.75 in Group A and mean value of 26.875 in Group B where in the p value was 0.0004 which is considered to be very statistically significant.

This Study implied that both classical strain-counterstrain technique and myofascial release technique are effective. Clinically, Group B with age group between 20yrs to 40yrs showed better improvement in NPRS, NDI and Cervical lateral flexion ROM.

## CONCLUSION

Strain Counterstrain technique and Myofascial release technique are both effective in reducing pain and improving cervical lateral flexion. Myofascial release technique is more effective than Strain Counterstrain technique on trapezius in women with age group 20-40 years.

## LIMITATIONS

1. The study had a small sample size.
2. Ergonomic advices and posture correction were not employed
3. Findings is limited by the short-term duration without follow-up and the lasting effects of this approach were unknown.
4. Subjects with 20-40 years of age were considered for the study thus results cannot be generalised to all age groups.
5. The subjects were chosen from the same geographical region.

## REFERENCES

1. Priya Gupta and Nehal Shah - Immediate Effect of Strain/ Counterstrain V/S Myofascial Release on Local Pain of Upper Trapezius .April 2020;3 (4);43-46.
2. Aishwarya Pimpalgaonkar, Dr. Priyanka Honkalas and Dr. Sucheta Gholhar - Immediate effect of myofascial release technique and strain counterstrain technique on unilateral trapezius in sitting job professionals. February 2020;International journal of applied research; 6(3):378-382.
3. Sweet Charles Carvalho, Vinod Babu, Sai Kumar, Ayyapan.V- Effect of Positional Release Technique in subjects with subacute trapezius. June 2014;1(2) :91-99.
4. Jagatheesan Alagesan, Unnati S. Shah-Effect of positional release therapy and taping on unilateral upper trapezius tender points-randomized controlled trial. July 2012;13-17.
5. Dr. Nishanth Gowda, Dr. Rajeeva, Dr. Lokesh M - A study to compare the effectiveness of classical strain / counterstrain technique with ultrasound therapy and myofascial release technique with ultrasound therapy on unilateral upper trapezius trigger points; July 2018;4(7);133-138
6. Dr.Senthil kumar, Ajith kumar, Sangeetha- A study on effectiveness of post isometric relaxation technique in trapezius among workers; Research J.Pharm and Tech; July 2019;12(10);4836-4840.

7. Ekta S Chaudhary ,Nehal Shah ,Neeta Vyas , Ratan Khuman, Dhara Chavda,Gopal Nambi -Comparative study of myofascial release and cold pack in upper trapezius spasm; December 2013;3(12);20-27.
8. Pinakin Godse , Seema Sharma , Tushar J. Palekar<sup>3</sup> -Effect of Strain- Counterstrain Technique on Upper Trapezius Trigger Points; October- December 2012;6(4);77-80.
9. Nawal M Mulla,Parag Kulkarni,Ajay Kumar-Immediate effect of Strain Counterstrain Technique versus Muscle Energy Technique on upper trapezius tenderness in Non-Specific neck pain; April-June 2021; 6 (2);289- 298.
10. Daxa Mishra, R Harihara Prakash, Jigar Mehta, Ankita Dhaduk- Comparative Study of Active Release Technique and Myofascial Release Technique in Treatment of Patients with Upper Trapezius Spasm . November 2018;12(11);1-4.
11. Victoria Misalidou,Paraskei Malliou,Anastasia Beneka,Alexandros Karagiannidis,Georgios Godolias-Assessment of patients with neck pain:a review of definitions,selection criteria and measurement tools;June 2010;9(2);49-59.
12. David J.Alvarez and Pamela G.Rockwell,-Trigger points :Diagnosis and Management; February 15,2002;65(4);653-661.
13. Albert Aienza Meseguer , Cesar Fernandez-de-las-Penas, Jose Luis Navarro-Poza, Cleofas Rodriguez-Blanco, Juan Jose Bosca Gandia - Immediate effects of the strain/counterstrain technique in local pain evoked by tender points in the upper trapezius muscle;September 2006;9(3)112- 118.
14. Jibi Paul,Pradeep Balakrishnan- Effect of strain counter Strain technique and stretching in treatment of patients with upper trapezius tenderness in neck pain;Int J Physiother August 2018;5(4);141-144.
15. Varsha Chorsiya, Shabir.A.Sheikh -Strain-Counterstrain technique for immediate relief of trapezitis in sitting job professionals; June 2013;2(6);411-412.
16. Muhammad Sajid paracha ,Breera Amjad ,Kanza Masood, Mushyyaida Iqbal,Seemal Mughal,Rabbia Naseer, Hafiz Muhammad Junaid Hassan, Asif Ali Butt- Prevalence of neck pain and its different associated factors among undergraduate students of Sargodha medical college;September 2019;8(1);1-4.
17. Rene Fejer ,Kirsten Ohm Kyvik, Jan Hartvigsen – The prevalence of neck pain in the world population : a systematic critical review of the literature;June 2006; 15(6);834-848.
18. Christopher Kevin Wong - Strain counterstrain: Current concepts and clinical evidence;February 2012;17(1);2-8.
19. Sohrab Ahmad Khan - Efficacy of ischaemic compression technique in combination with strain countersrain technique in managing upper trapezius myofascial trigger point pain;April -June 2010;4(2);1-5.
20. Parab, Nilima Bedekar, Ashok Shyam, Parag Sancheti - Immediate effects of myofascial release and cryo-stretching in management of upper trapezius trigger points – A comparative study;2020;4(2);74-78.
21. Tim Speicher,David O. Draper-Top-10 Positional-Release Therapy Techniques to Break the Chain of Pain;November 2006;11(6);69-71.
22. Pooja Mane,Amrutkuvar Pawar, Trupti Warude-Effect of Myofascial Release and Deep Transverse Friction Massage as an Adjunct to Conventional Physiotherapy in Case Unilateral Upper Trapezitis - Comparative Study ; March 2017;6(3);644-647.
23. Karthick K. A study on positional release therapy in the Management of Trapezitis. Research &Reviews: Journal of Computational Biology. 2017; 6(2):19-25.
24. Leesa Huguenin K. Myofascial trigger points: the current evidence.Physical Therapy in Sports. 2004; 5:2-12.
25. Kerry Ambrogio JD, George Roth. Positional release therapy assessment and treatment of musculoskeletal dysfunction.Edn1st , Mosby, 1997, 1-229.