



“THE EFFECT OF DEEP FRICTION MASSAGE AND POSITIONAL RELEASE TECHNIQUE ON PAIN, DISABILITY AND AFFECTED RANGE IN COLLEGE GOING STUDENTS WITH TRAPEZITIS– A COMPARATIVE STUDY”

Physiotherapy

Disha Patel*

B.P.T. *Corresponding Author

Dr. Nehansi Chauhan

M.P.T. Neurological Conditions, Assistant Professor, Venus Institute Of Physiotherapy, Swarnim Statup And Innovation University, Gandhinagar.

Dr. Arvind Kumar

M.P.T. (Musculoskeletal), Ph.D., Principal And Professor, Venus Institute Of Physiotherapy, Swarnim Startup And Innovation University, Gandhinagar.

ABSTRACT

Background: Trapezitis is defined as an 'inflammation of trapezius muscle'. Physiotherapy is the choice of treatment for trapezius spasm which includes passive treatment such as massage, stretching etc., along with various modalities like interferential therapy, transcutaneous Electrical Nerve Stimulation, Ultrasound, heat application, cryotherapy and active treatment such as exercise therapy. In addition, soft tissue manipulation techniques like Positional Release Therapy (PRT), Muscle Energy Technique (MET), ART, MFR etc., are also used for relief of muscle pain & spasm. Positional release technique and Deep friction massage have found effective individually but there is no research found which is better among them. So, the need of study is to compare effects of positional release technique and deep friction massage on neck pain, disability and affected range in college going students with trapezitis. **Methodology:** This study included 60 college going students with trapezitis and divided into 2 groups. Group A(n=30) received Deep friction massage and Group B(n=30) received Positional release technique with conventional therapy for 5 days per week for 2 weeks. Outcome measures Numerical pain rating scale, Neck disability index and Contralateral side flexion of neck were taken before and after treatment. **Result:** Result of this study shown that there is significant statistical difference within group results but there is no significant statistical difference seen in between group analysis. **Conclusions:** In the conclusion Positional release technique with conventional physiotherapy is more effective to reducing pain, disability and improving affected range in college going students with trapezitis.

KEYWORDS

Deep friction massage, Positional release technique and Trapezius spasm

INTRODUCTION

Trapezitis is defined as an 'inflammation of trapezius muscle'. The upper trapezius muscle designed as postural muscle and its highly susceptible to overuse. Passive range of motion may be painful & restricted due to pain and protective spasm in antagonist muscle group^[1,2,3]. It is mainly caused due to stress, tension, repetitive movements, head forward posture, sitting without back support, working with the no arm support, prolong head bending activity, using thick pillow, tight pectoral major muscle, severe neck spasm^[4,5,6]. A myofascial trigger point (MTrP) is a hyperirritable area, usually within a taut band of skeletal muscle or in the muscle fascia which is painful on compression and can give rise to characteristic referred pain and motor dysfunction.

Inflammatory pain arising from the trapezius muscle causes a severe neck spasm, where this muscle lies at the back of the neck and helps in shrugging movement of the shoulders along with upward movement of the head^[7]. Trapezitis leads to pain at the back of the neck, muscle spasm, shoulder pain, tingling or numbness in one or both arms and also decrease in the range of motion of the shoulder and neck^[8]. 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 %)^[9]. It occurs acutely for less than one- month, subacute condition lasts for 1-3 month and chronic is present for 3 or more than 3 months. Poor ergonomic work habits such as prolonged constrained work position with ley neck or spine flexion may imply a risk factor^[10].

Physiotherapy is the choice of treatment for trapezius spasm which includes passive treatment such as massage, stretching etc., along with various modalities like interferential therapy, transcutaneous Electrical Nerve Stimulation, Ultrasound, heat application, cryotherapy and active treatment such as exercise therapy. In addition, soft tissue manipulation techniques like Positional Release Therapy (PRT), Muscle Energy Technique (MET), ART, MFR etc., are also used for relief of muscle pain & spasm^[11].

Positional release therapy (PRT) is an indirect technique which places the body into comfortable position and employs the tender points to identify and monitor lesion. It was first developed by Dr. Lawrence Jones in 1950's. It is also known by its parent term strain counterstrain. Essentially PRT is the opposite of stretching. Jones developed strain counter strain in more depth in 1988, during which Jones tried finding a comfortable position for the patient in which pain was either zero or was very minimal. Patient was in the same position for a short time. On

recovering back to normal position subject was relief which was lasting.^[12] In counterstrain mechanism: If a tissue is abruptly strained, the opposite tissue (antagonist) is counterstrained in its attempt to stabilize against straining force, resulting in the production of TPs that prevent agonist strained tissue from fully healing.^[10]

Deep friction massage (DFM), also known as cross friction massage, is a specific connective tissue massage that was developed by James Cyriax. The purpose of DFM is to: maintain the mobility within the soft tissue structures of ligament, tendon, and muscle, and prevent adherent scars from forming. The massage is deep and must be applied transversely to the specific tissue involved unlike the superficial massage given in the longitudinal direction parallel to the vessels which enhances circulation and return of fluids. The distinction must be made between contractile structures such as the muscle belly, musculotendinous junction, tendon, tendon - periosteal junction and non- contractile structures such as the joint capsule, bursae, fascia, and ligament.^[13,14]

The duration of the treatment varies; for example, with an acute ligamentous injury, the gentle massage performed may last only 1 -2 minutes. However, it may well take several minutes to be able to get your fingers on the structure depending on the severity of pain. With DFM, the treatment will last 10-15 minutes. Intensity of the pressure applied during DFM is important to effect pain relief. Mean pressure used by physiotherapists have been estimated to be 2.3kg/cm², and the application of higher pressures have been shown to shorten the time to the onset of analgesia^[1,3].

Methodology

Research Design: A Comparative Study

Study Setting: Swarnim startup and Innovation University, Gandhinagar

Sample Design: Convenient sampling

Study Population: College going students in Swarnim startup and Innovation University, Gandhinagar

Treatment Duration: 2 weeks (5 day per week)

Selection Criteria

Inclusive Criteria:

- College going students
- Age between 18 to 25 year
- Painful and limited contralateral side flexion of Neck
- Having Trapezius muscle spasm
- NPRS grade between 2-5

- Patient willing to participate
- Both male and female age group

Exclusive Criteria:

- Any previous injury or surgery around neck and shoulder joint
- Subjects who are on any pain medication
- Patient who are not willing to participate
- Any Pathology in cervical spine and Radiating pain in neck or upper limb

Outcome Measures:

- Numeric Pain Rating Scale (NPRS)
- Neck Disability Index (NDI)
- Contralateral side flexion of neck

1. Numeric Pain Rating Scale (NPRS):⁽¹⁰⁾

A 10-point numeric scale with 0 representing one pain extreme (e.g., no pain), and 10 representing the other pain extreme (e.g., "pain as bad you can imagine" and "worst pain imaginable"). The patient is asked to indicate the numeric value on the segmented scale that best describes their pain intensity. Scores range from 0-10. Higher scores indicate greater pain intensity. Reliability: High test-retest reliability has been observed in both literate and illiterate patients with rheumatoid arthritis (r=0.96 and 0.95, respectively) before and after medical consultation. Validity: For construct validity, the NPRS was shown to be highly correlated to the VAS in patients with rheumatic and other chronic pain conditions (pain>6 months) range from 0.86 to 0.95.

2. Neck Disability Index (NDI):⁽¹⁵⁾

NDI is used to measure neck-specific disability. The questionnaire has 10 items concerning pain and activities of daily living including personal care, lifting, reading, headaches, concentration, work status, driving, sleeping and recreation. Test-retest reliability: 0.83 to 0.99, ICC: 0.84 to 0.94

0-4points (0-8%) no disability, 5-14points (10 – 28%) mild disability, 15-24points (30-48%) moderate disability, 25-34points (50- 64%) severe disability, 35-50points (70-100%) complete disability

3. Contralateral Side Flexion Of Neck:

Measure the range of motion of the contralateral side flexion of neck with the use of goniometer. Measure the pre and post range of motion. Test-retest reliability: within- session (ICC2,1 = 0.83 to 0.98) and between-session (ICC2,2 = 0.79 to 0.97) intra-rater reliability and excellent inter-rater reliability (ICC2,2 = 0.79 to 0.92)



Figure. 2: Flow Chart of the study procedure

• Group A: Deep Transverse Friction Massage

- Group A were given Deep Transverse friction massage to upper trapezius muscle fibres. Subject were evaluated for proper location of tender point with palpation of specific tendon, ligament and muscle was done. Friction massage was given across in affected fibres. Subject were in prone lying position. Transverse friction massage was given with the forefinger and reinforced with the middle finger. This technique was executed with the muscle in relaxed position, as recommended by James Cyrix and was applied for 3 minutes. Friction was applied slowly with the pressure slightly painful.
- This intervention was given for 5 days per week for 2 weeks. After 2 weeks the outcome measure was taken.



Figure 3: Deep Transverse Friction Massage

• Group B: Positional Release Technique

- Group B were given Positional release technique to upper trapezius muscle fibres.
- Each subject received 3 releases in specific location in supine position.

• Technique:

- The therapist picked up the trigger points by palpation in the upper trapezius muscle by pincer palpation method and distinguished with dots on the skin.
- Participants were made supine lying and relaxed by maintaining the cervical spine in a neutral position. The assessor steadily increased pressure by thumb on the noted trigger points.
- In the next step, the assessor achieved a new relaxed position which exerted less tension with pain reduction up to 80%. Slight contralateral flexion, extension, and ipsilateral side flexion were the positions in which the pain will dropped.
- The patient's both upper extremities were maintained in the abduction and sustained for 90 s passively by the assessor. This was done three times in each treatment with a 20-s rest interval in between.



Figure 4: Positional Release Technique

• Conventional Therapy:

- The conventional physiotherapy for both the group was given. Neck Range of motion which include neck flexion, Extension, Side flexion and Rotation was perform actively in pain free range for 10 time for each range for each group.
- Isometric neck extensor exercise was performed in sitting position by the chin tuck exercise for 10sec hold 10times without pain for each group.
- Intervention was given for 5 days per week for 2 weeks. After 2 weeks the outcome measure was taken.

RESULT

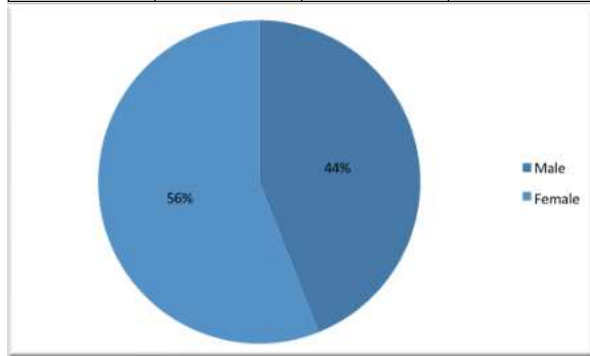
The study was conducted to examine the effect of deep friction massage and postural release technique on pain, disability and ROM of contralateral side-flexion in college going students with trepezitis.

Total 60 participants were enrolled in the study and divided in 2 groups with 30 participants in each one. Statistical analysis was done using SPSS. 24.0.

Among a total of 60 subjects with Trapezius muscle spasm 56% were female and 44% were male. Each group contains 13 male and 17 females.

Table 1: Gender Distribuuiion

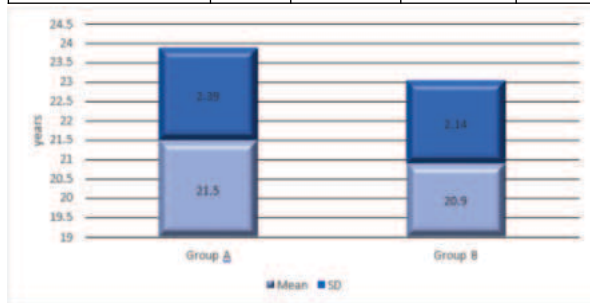
	Group A	Group B	Total
Number	30	30	60
Male	13	13	26
Female	17	17	34



Graph 1: Gender Distribuuiion

Table 2: Demographic Details (Age Distribution)

DEMOGRAPHIC DETAILS	GROUP A	GROUP B	P value
AGE			
Mean	21.5	20.9	0.687
SD	2.39	2.14	



Graph 2: Age Distribution

Table 2 and Graph 2 show the mean age of the subjects in Group A (21.5) and Group B (20.9). No statistically significant difference was found between the ages of the participants in all groups, proving that the groups are homogenous in terms of age.

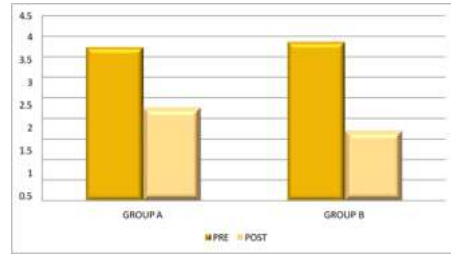
Table 3: Inter-group Comparison Of Pre-treatment Score Of Nprs, Ndi And Difference Of Range Of Contralateral Side-flexion

GROUP	GROUP A		GROUP B		T/F VALUE	P VALUE
	Mean	±SD	Mean	±SD		
NPRS	3.73	0.85	3.86	0.8	0.604	0.739
NDI	28.06	4.19	27.93	3.88	0.375	0.837
ROM	13.6	3.92	14.33	3.83	0.614	0.736

Table 3 shows the inter-group comparison of pre-treatment scores of NPRS, NDI and difference of range of contralateral side-flexion for Group A and Group B. The p value is >0.05 that shows there is no statistically significant difference between the pre-treatment score of NPRS, NDI and difference of range of contralateral side-flexion. Hence it proves the pre-treatment data are homogenous.

Table 4: Intra-group Comparison Of Mean Of Pre & Post Treatment Score Of Nprs

GROUP	PRE		POST		P VALUE
	Mean	±SD	Mean	±SD	
GROUP A	3.73	0.85	2.26	0.81	<0.05
GROUP B	3.86	0.80	1.70	1.06	

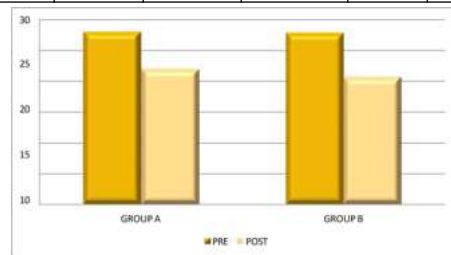


Graph 3: Intra-group Comparison Of Mean Of Pre & Post Treatment Score OfNprs

Table 4 and Graph 3 show the intra-group comparison of pre & post treatment scores of NPRS using Wilcoxon Signed rank test. P value is <0.05 which shows significant differences in all groups. It shows that treatment is effective for Group A and Group B. Hence this rejects the null hypothesis H01 and H02 and accepts the alternate hypothesis H1 and H2.

Table 5: Intra-group Comparison Of Mean Of Pre & Post Treatment Score Of Ndi

GROUP	PRE		POST		P VALUE
	Mean	±SD	Mean	±SD	
GROUP A	28.06	4.91	22	4.85	<0.05
GROUP B	27.93	3.88	20.7	3.71	

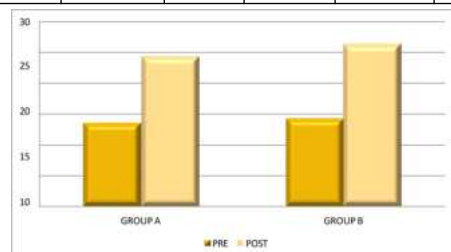


Graph 4: Intra-group Comparison Of Mean Of Pre & Post Treatment Score OfNdi

Table 5 and Graph 4 show the intra-group comparison of pre & post treatment scores of NDI using Wilcoxon Signed rank test. P value is <0.05 which shows significant differences in all groups. It shows that treatment is effective for Group A and Group B. Hence this rejects the null hypothesis H01 and H02 and accepts the alternate hypothesis H1 and H2.

Table 6: Intra-group Comparison Of Mean Of Pre & Post Treatment Score Of Difference Of Range Of Contralateral Side-flexion

GROUP	PRE		POST		P VALUE
	Mean	±SD	Mean	±SD	
GROUP A	13.6	3.92	24.4	6.53	<0.05
GROUP B	14.33	3.83	26.4	7.71	



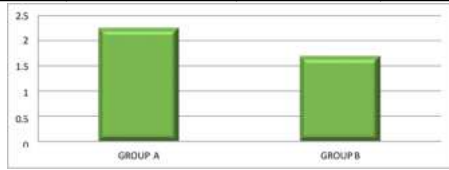
Graph 5: Intra-group Comparison Of Mean Of Pre & Post Treatment Score Of Difference Of Range Of Contralateral Side-flexion

Table 6 and Graph 5 show the intra-group comparison of pre & post treatment scores of difference of ROM of contralateral side-flexion using Wilcoxon Signed rank test. P value is <0.05 which shows significant differences in all groups. It shows that treatment is effective for Group A and B. Hence this rejects the null hypothesis H01 and H02 and accepts the alternate hypothesis H1 and H2.

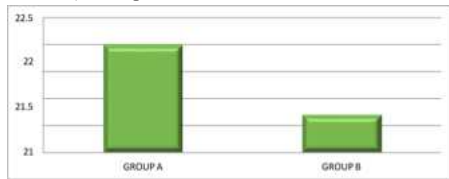
Table 7: Inter-group Comparison Of Mean Of The Post Values For

All Outcomes

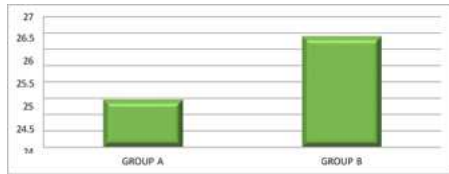
GROUP	NPRS		NDI		ROM	
	Mean	±SD	Mean	±SD	Mean	±SD
GROUP A	2.26	0.81	22.0	4.85	24.46	6.53
GROUP B	1.70	1.06	20.7	3.71	26.4	7.71
P VALUE	<0.05		<0.05		<0.05	



Graph 6: Inter-group Comparison Of Mean Of The Difference (post Treatment Score) For Nprs



Graph 7: Inter-group Comparison Of Mean Of The Difference (posttreatment Score) For Ndi



Graph 8: Inter-group Comparison Of Mean Of The Difference (post Treatment Score) For Difference Of Range Of Contralateral Side-Flexion

Table 7 and Graph 6, 7 and 8 show the inter-group comparison of the difference between post treatment scores of NPRS, NDI and Difference of range of contralateral side-flexion. The comparison of mean of difference for post score was done using Kruskal Wallis test. P value is <0.05 which shows significant difference in all group and according to the mean value, the treatment of Group B is more effective in reducing pain, reducing disability and improving affected ROM than Group A. Hence this rejects the null hypothesis H03 and accepts the alternate hypothesis H3.

DISCUSSION

In the present study, age group participated was between 18 years to 25 years. In this study, total 60 participants were recruited. Gender distribution table shows that there are total 56% females and 44% males included in the study which showed that females are more prone to get trapezitis.

Trapezitis is seen in these occupations more because of as lack in knowledge of ergonomics, neck care while working in sustained static position of neck. This creates higher impact of stress on prime muscles like trapezius responsible for maintenance of kinetics and kinematics of neck and ultimately participates in normal functions of daily life. (A. kumaresan G. Deepthi Vaiyapuri Anandh S. Prathap, 2012). Gauresh.(2014). Here from result it is confirmed that there is significant difference in within group analysis but there is minimal difference found when compared in between group analysis.

PRT is trusted to achieve its benefit by means of an automatic resetting of muscle spindles, which further helps to quantify the extent of the length, tone [16], and increase in the length of sarcomeres in the contracted knotty areas. In the application of the PRT technique, the muscle is engrossed in the utmost comfortable position. This sort of positioning results in tissue relaxation, [17] which ultimately improves vascular circulation and removes chemical mediators, which are believed to be the roots of the inflammation process. The PRT technique also aids in the eradication of the peripheral and central sensitization. Furthermore, the above-mentioned technique also has a direct impact on central sensitization by curbing the effect on the facilitated segment located in the spinal cord region. Additionally, it also plays an important role in breaking the vicious cycle of pain-spasm-pain in the muscles. [18,19]

The purpose of DFM is to: maintain the mobility within the soft tissue structures of ligament, tendon and muscle and prevent adherent scars from forming. The massage is deep, as the name implies, and must be applied transversely to the specific tissue involved unlike the superficial massage given in the longitudinal direction parallel to the vessels which enhances circulation and return of fluids. Before DFM can be performed successfully, the correct structure must be found through proper evaluation procedures. The distinction must be made between contractile structures such as the muscle belly, musculotendinous junction, tendon, and tendon - periosteal junction and non-contractile structures such as the joint capsule, bursae, fascia, and ligament. [13,14]

The manual pressure release acts in two ways: Firstly, when pressure is applied on the marked trigger points, the native chemistry gets altered due to blanching of the lumps in addition to this there is a stimulation of mechanoreceptors which has an influence on pain gate mechanism, thus leading to reduction of pain. Secondly, when compression is released, it results in hyperemia (increase blood flow to the tissues) and an increase in the lymphatic circulation from that treated area which eliminates hypoxic condition and improves the scores in cellular metabolism, [20,21] which finally flushes out the inflammatory chemical substances such as prostaglandins, histamine, and bradykinin (pain metabolites); therefore, reduction of sensitization of the nociceptors occurs. In addition to this, its breakdowns the scar tissue, desensitizes the nerve endings, and reduces muscle tone. There are a number of possible mechanisms behind its effectiveness. Simons has proposed that it may equalize the length of sarcomeres in the involved region and consequently decrease the palpable knot and pain. On the other hand, Hou et al. suggested that pain reduction following release may result from reactive hyperemia in the local reaction due to counterirritant effect or a spinal reflex mechanism that may produce reflex relaxation of the involved muscle. While analyzing the outcome measure of our study, it showed a significant difference regarding pain pressure threshold (PPT) between pre- and post-treatment in group. [22,23]

The results also came in agreement with Kostopoulos et al., who searched the effect of ischemic compression (IC), passive stretching (PS), and the combination of compression and stretching on pain perception from MTrPs. The results showed that all treatments demonstrated a decline in pain perception. In addition to Hains et al., who examined the effect of MTrP using ischemic compression on shoulder trigger points in patients with chronic shoulder pain. They found it effective in decreasing functional disability in the shoulder joint.

CONCLUSION:

- In conclusion the treatment program consisting Positional release technique with conventional physiotherapy is more effective to reducing pain, disability and improving affected range in college going students with trapezitis.

Abbreviations:

MTrP: Myofascial trigger point, PRT: Positional Release Therapy, MET: Muscle Energy Technique, MFR: Myofascial release, NPRS: Numeric Pain rating Scale, NDI: Neck Disability Index

Limitations:

- Long term effect of these two techniques were not consider.
- More focus was done on contralateral side flexion of neck ROM.
- Factor of Dominate side hand was not consider.
- School going student and occupational Person were not consider.

Future Recommendation:

- The Periodic Reassessment can be done for long term effect
- The Study can be done with Dominate hand oriented.

REFERENCES:

- 1) Urits I, et al. (2020). "The Comprehensive Management of Trapezius Myalgia." Pain and Therapy, 9(2), 345-356. doi:10.1007/s40122-020-00182-5
- 2) Kamper SJ, et al. (2016). "Multidisciplinary biopsychosocial rehabilitation for chronic low back pain." Cochrane Database of Systematic Reviews, 2016(2). doi:10.1002/14651858.CD009633.pub3
- 3) A. kumaresan G.Deepthi,Vaiyapuri Anandh, S. Prathap. Effectiveness of positional release therapy in treatment of Trapezitis . International journal of pharmaceutical science and health care. 2012;1(2)71-81
- 4) Kool J, et al. (2007). "Preoperative physical therapy for elective cardiac surgery patients." Cochrane Database of Systematic Reviews, 2007(1). doi:10.1002/14651858.CD005566.pub2.
- 5) Manchikanti L, et al. (2009). "Comprehensive review of epidemiology, scope, and impact of spinal pain." Pain Physician, 12(4), E35-E70.
- 6) Jagatheesan Alageson unmati S . Shah effect of positional release technique and tapping

- on unilateral upper Trapezitis tender point , interntional journal of health & pharmaceutical science.
- 7) Shweta R. Rakholiya and vaibhavived et al. effect of ischemic compression on upper Trapezitis, 2016; 5(7):1131-1134.
 - 8) 7. Khare D, Pathak R. Effectiveness of elastic resistance band exercises versus conventional exercises on cases of trapezitits: A comparative study. International Journal of Orthopaedics. 2018;4(1):174-8.
 - 9) 8. Laura K. Smith, Elizabeth I. Weiss and L. Don Lehmukhi, brunnstrom”s clinical kinesiology 5th ed: fa davis company; 1996
 - 10) 9. Finsen L, Christensen H, Bakke M. Musculoskeletal disorders among dentists and variation in dental work. Appl Ergon. 1998;29(2):119-25.
 - 11) 10. Pathan NM, Thakur S, Kadam K, Lohade S, Chandak N. Immediate effects of positional release therapy and manual trigger point release on neck pain and range of motion in computer users with upper trapezitits. Journal of Family Medicine and Primary Care. 2021 Aug;10(8):2839.
 - 12) 11. Mane P, Pawar A, Warude T. Effect of myofascial release and deep transverse friction massage as an adjunct to conventional physiotherapy in case unilateral upper trapezitits-comparative study. International Journal of Science and Research. 2017;6(3):644-7.
 - 13) 12. Vispute S, Kumar N. A Comparative Study of Immediate Effects of Myofascial Release Technique and Positional Release Technique on Trapezitis among the College Student. Int J Physiother Res. 2022;10(3):4243-9.
 - 14) Cyriax textbook of orthopedic medicine 11th edition London; baillere,tindall 1984.
 - 15) Mishra D, Prakash RH, Mehta J, Dhaduk A. Comparative Study of Active Release Technique and Myofascial Release Technique in Treatment of Patients with Upper Trapezius Spasm. Journal of Clinical & Diagnostic Research. 2018 Nov 1;12(11).
 - 16) 17. Sain M.K, Meena M.L. Occupational health and ergonomic intervention in Indian small-scale industries: a review. Int J Recent Adv Mechanical Engin. 2016;5(1):13-24.
 - 17) 18. Beal M.C, editor. The principles of palpatory diagnosis and manipulative technique. Indianapolis, IN: American Academy of Osteopathy. 1989
 - 18) 19. Shah JP, Thaker N, Heimur J, Aredo JV, Sikdar S, Gerber LH. Myofascial trigger points then and now: A historical and scientific perspective. Pm R. 2015;7:746-61.
 - 19) 20. Pattanshetty RB, Raikar AS. Post Graduate Student, KJ Somaiya Institute Of Physiotherapy, Belgaum, Karnataka, India. Immediate effect of three soft tissue manipulation techniques on pain response and flexibility in chronic plantar fasciitis: A randomized clinical trial. Int J Physiother Res. 2015;3:875- 84.
 - 20) Moraska AF, Hickner RC, Kohrt WM, Brewer A. Changes in blood flow and cellular metabolism at a myofascial trigger point with trigger point release (Ischemic Compression): A proof-of-principle pilot study. Arch Phys Med Rehabil. 2013;94:196-200.
 - 21) Fernández-de-Las-Peñas C, Ge HY, Arendt-Nielsen L, Cuadrado ML, Pareja JA. Referred pain from trapezius muscle trigger points shares similar characteristics with chronic tension type headache. European Journal of Pain. 2007 May 1;11(4):475-82.
 - 22) Fryer G, Hodgson L. The effect of manual pressure release on myofascial trigger points in the upper trapezius muscle. J Bodyw Mov Ther. 2005;9:248-55.
 - 23) Hou CR, Tsai LC, Cheng KF, Chung KC, Hong CZ. Immediate effects of various physical therapeutic modalities on cervical myofascial pain and trigger-point sensitivity. Archives of physical medicine and rehabilitation. 2002 Oct 1;83(10):1406-14.