“TO COMPARE THE EFFECT OF BOWEN TECHNIQUE VERSUS POSITIONAL RELEASE TECHNIQUE ON TRAPEZIUS MUSCLE IN TRAPEZITIS”

INTRODUCTION

Trapezitis is defined as inflammation of Trapezius muscle which involves myofascial pain syndrome.[1,2] The upper Trapezius muscle is designated as postural muscle and it is highly susceptible to overuse. The pain is present even during rest and is aggravated by activity and it may be referred to another area from the site of primary inflammation.(3) Prevalence of trapezitis among Indian population vary between 5.9-38.7%(4)

Trapezius is a large muscle towards the back arises from the neck and it performs many main functions of our body. The most important function out of them is lifting the head upwards and shrugging off the shoulder. It also facilitates movement, rotation and stabilization of shoulder blade.

The trapezius muscle is an inverted triangle starts at the base of the skull, spreads over the shoulders and down to the mid back. The trapezius muscle is divided into three areas upper fibers, middle fibers, lower fibers. (5) It has several functions such as to move the shoulder blade in toward the spine, to rotate the shoulder blade so that the top most part of the upper arm faces up, to move the shoulder blade up and down, to bring the head and neck in a backward direction, to rotate and side bend the neck, to assist in breathing. Since the Trapezius muscle works to move the neck in several directions; its degree of tightness or looseness affects neck flexibility. (6)

Trapezitis is usually caused by placing too much stress or strain over the Trapezius muscle.
Trapezius muscles help with the function of neck rotation, side bending and extension. (7)

As conventional exercises have shown improvement in subjects as they neurologically inhibit pain or involuntary muscle contraction long enough to allow movement past the barrier with isometric according to the pain gate theory where in the mechanoreceptors afferents carried by the large diameter axon inhibits nociceptors afferent at the dorsal horn of spinal cord.

Treatment of trapezitis requires a multifaceted approach such as rest; isometric relaxation techniques; manual therapy which are beneficial for trapezitis, There are many recent advances; two of them are Positional release therapy and Bowen technique, so we compare the effect of Positional release technique and Bowen technique with conventional treatment . (8)

Positional Release Therapy (PRT) used for treatment of trigger points. This technique involves passive body positioning, which is claimed to elicit immediate and prolonged reductions in tenderness at trigger points and to reduce pain and with musculoskeletal conditions PRT relies on precise positioning of dysfunctional tissues in ways that allow a spontaneous response that releases or reduces excessive tension and/or spasm. The mechanisms are thought to result from spindle resetting, reduction in nociceptive sensitivity and circulatory enhancement (9)

Other manual therapy technique, The Bowen Technique is a dynamic system of muscle and connective tissue therapy that was developed by the late Tom Bowen in Geelong, Australia in the year of 1950. It utilizes subtle inputs to the body (known as moves), stimulating the body to heal itself, often profoundly. [10] A typical Bowen technique session lasts from 15-45 minutes; it consists of several sets of moves. The Bowen moves are gentle but purposeful; in present study when executing Bowen move away from the patient‟s body, two fingers are used on the origin or the insertion of a muscle and the belly of the muscle itself. There is both a physical action and an energetic action. [11]

There is lack of evidence to suggest that which technique is more effective positional release therapy or Bowen technique, so the aim of present study is to compare the effect of Bowen technique and Positional release therapy with conventional treatment. Nowadays stretching, strengthening and postural correction exercises are widely used approaches for different conditions but there is less number of researches available for treating trapezitits with Bowen technique and positional releases technique. Hence, the need of the study is to compare the effect of two different treatment approachesin patient with trapezitis.

METHODOLGY

- This is experimental study in which we are going to take 30 patients age group between 25 to 45 year suffering with trapezitis. Selection of the patient with simple random sampling for duration 12 weeks (24 sessions), treatment time: 10 days (5 Sessions) for both the groups.Subject will be selected on the basis of inclusion criteria like subject must have NPRS score more than 5 , unilateral trapezitis cases with on palpation pain on trigger point over the trapezius muscle (complain of pain from 7 days to 3 month , study will be conducted and taken from udaipur GBS American Hospital. Patient having Patient with inflammatory condition around neck region, history of trauma or fracture of cervical spine, Cervical spine or shoulder pathologies like radiculopathy or myelopathy or fibromyalgiasyndrome, Sensory changes in trapezius region, unco-operative patients

OUTCOME MEASURE

NPRS- Numerical pain rating scale:

- NPRS is used to assess the pain intensity. It covered 11 point numeric scale from 0-10 on the left with the phrase “No pain” and on right “Worst imaginable pain”. It has higher reliability (95% confidence interval;0.84). [12]

NDI- Neck disability index:

- The participant's functional status is assessed by means of the Vernon Neck Disability Index (NDI). It is a 10-item questionnaire .The score of each item lies between 0 (no pain or limitation in activities) and 5 (as much pain as possible or maximal limitation). Total scores range between 0 and 50 points.[11]

PROCEDURE

Conventional exercise will be given prior to the intervention to both the groups.

CONVENTIONAL THERAPY :

 Passive stretching: Patient position: Sitting comfortably in supported chair. Arm rested by the arm rest. Stretching is given for the upper Trapezius. Passive stretching was applied for three times ; 45 second stretch followed by 30 seconds rest interval.(14)

 Static neck exercises:-Hold -10sec (15)

Rest-5sec

 Scapular and Shoulder Girdle Strengthening exercises: (16)

-shoulder shrug

-scapular retraction

- scapular muscle strengthening exercise

1 set of 10 repetitions- Of Each exercise

 Postural correction exercise

- Chin tucking

- shoulder blade squeeze

GROUP-A (N=15):

BOWENTECHNIQUE+CONVENTIONAL

THERAPY:

Bowen technique was given in the following steps:

1) The patient position was prone lying with small pillow for neck support.

2) Place the thumb on the affected side muscle.

3) Hook the thumb on the lateral edge of the muscle to form pressure against the muscle.

4) Create a slight pause as the nervous system registers a tension.

5) As the thumb begins to flatten in a medial direction, the muscle will pluck or plop or respond in some manner.

6) Carry the skin and challenge the muscle first with the thumbs followed by the fingers.

7) The hands are place with an inch of space between the thumbs and fingers so that the hands can play the muscles simultaneously.

 Treatment time – 12 Weeks (24 Sessions)

GROUP –B (N=15):

POSITIONAL RELEASE THERAPY+ CONVENTIONAL THERAPY:

• The patient was seated with the cervical spine in a neutral position. The therapist located the trigger point in the upper Trapezius muscle by manual palpation.

• The therapist applied gradually increasing pressure until the sensation of pressure became one of pressure and pain.

• At that moment, the patient was then passively placed in a position that reduces the tension under the palpating fingers and causes a subjective reduction of pain by around 70%.

• The position was usually cervical extension, ipsilateral side-flexion, and a slightly contra-lateral cervical rotation (5-8 degrees).

• The patient's upper extremity positioned in passive abduction. This position was maintained for 90s. Finally, the patient was slowly passively placed in neutral position of the cervical spine.

• Treatment time – 12 Weeks (24 sessions)

REFERENCE

1. Carvalho S, Babu V, Kumar S, Ayyapan.V . R: Effect Of Positional Release TechniqueIn Subjects With . Trapezitis, *Int J Physiother*; (2014), 1(2):91-99.
2. Rajalaxmi.A, Kumar. S, Shaker. I: Effect Of Transcutaneous Electrical Nerve Stimulationand Trapezitis,*International Journal Of Pyhsiotherapy And Research*; (2013),1 (5):205-7.
3. Richard L. Drak , A.Wayne Adam et.Al *Gray's Anatomy* 2nd Addition ; Page No 89
4. Fejer R, Kyvik KO, Hartvigsen J: The prevalence of neck pain in the world population: A Systemic critical review of the literature, Eur Spine J. 2006; 15:834-848.
5. .Johnson G, Bogduk N, Nowitzke A, House D: Anatomy And Actions Of TheTrapezius Muscle,*Clinical Biomechanics*; (1994) 9(1):44-50).
6. V.N.Ravish,Shridhar and Sneha Helen: To compare the effectiveness of myofasical release technique with laser in patients with unilateral trepezitis. From: Journal of Medical and dental sciences(2014, vol.3, issue 9)
7. .Ibanez-Garcia J.,Alburquerque- Sendin,F,Rdriguez –Blanco et al: Changes in masseter trigger points following strain-cunterstrain or neuro-muscular technique.(2009, J Bodyw Mov Therapy;13;2-10)
8. Eng-Ching Yap: Myofascial Pain – An Overview, J. Annals Academy Of Medicine A (2007),;1:36.
9. Umit Dundar, Ozlem Solak, Vural Kavunc: Effectiveness Of Ultrasound Therapy In Cervical Myofascial Pain Syndrome: A Double Blind, Placebo-Controlled Study,*Turk J Rheumatol*;{(2010), 25:110-15}.

10. Dr.S.Anandh: To Compare The Effectiveness of Positional Release Therapy Versus Active Release Technique with Posture And Body Mechanics Training inworking Women with Trapezius Myalgia. : IOSR Journal Of Humanities And Social Science (IOSR-JHSS) Volume 22, Issue 8, Ver. 17 August. 2017 PP 25-37.
11. Sahem A. M. AL shawabka: Paositional release technique versus manual pressure release on upper trapezius muscles in patients with myofascial pain dysfunction syndrome. Cairo university., (Volume 18, No (1) Jan,2013).
12. Birgitta Helmerson Ackelman, Urban Lindgren: Validity And Reliability Of A ModifiedVersion Of Neck Disability Index,*J Rehabil Med*; (2002), 34: 284
13. Cleland ,John child, Julie m:Psychometric properties of neck disability index and numeric pain rating scale in patient with mechanical neck pain.(Jan 2008,Arch Phys Med Rehab Vol 89)
14. Dr. Diptee Waingankar, Dr. Siddhi Tendulkar, Dr. Mahendra Shende : Immediate effect of myofascial release vs passive stretching on pain in females with unilateral trepezitis. (Iranian Red Crescent Medical Journal 19 (9), 2017).
15. FallaDeborah, Jull Gwendolen, Russell Trevor, Vicenzino, Bill Hodges: Effect of neck exercise on sitting posture in patients with chronic neck pain. Physical therapy. 2007; 87(4):408-417.
16. Dusunceli Yesim, Ozturk Cihat, Atamaz Funds, HepgulerSimin, Durmaz Berrin: Efficacy of neck stabilization exercises for neck pain: a randomized controlled study. Journal of rehabilitation medicine: official journal of the UEMS European Board of Physical and Rehabilitation Medicine, 2009; 41:626-631.

17. Sahem A. M. AL shawabka: Paositional release technique versus manual pressure release on upper trapezius muscles in patients with myofascial pain dysfunction syndrome. Cairo university., (Volume 18, No (1) Jan,2013).
18. Lajtai ,Georg; Applegate, Gregory; Snyder, Stephen J.; Aitzetmüller, Gernot; Gerber,Christian (March 11, 2003). "trapezoid"&pg=PA89 Shoulder Arthroscopy and MRI Techniques: 20 Tables. ISBN 9783540431121.
19. Jump up to:a b c d e Bakkum, Barclay W.; Cramer, Gregory D. (January 1, 2014),Cramer, Gregory D.; Darby, Susan A. (eds.), "Chapter 4 - Muscles That Influence the Spine", Clinical Anatomy of the Spine, Spinal Cord, and Ans (Third Edition), Saint Louis: Mosby, pp. 98–134, ISBN 978-0-323-07954-9, retrieved January 8, 2021
20. Rentsch O and Rentsch E. (1997) Bowtech. The Bowen Technique: A Training and Instruction Manual. Bowtech Pty Ltd: Hamilton: Australia.
21. Minnery, W. (2001) Personal Communication (email)– The Essence of Bowen. March 2001.
22. Rajalaxmi.A, Kumar. S, Shaker. I.(2013),Effect Of Transcutaneous Electrical Nerve Stimulation and Trapezitis,International Journal Of Pyhsiotherapy And Research;1 (5):205-7.
23. Travell J.G, Simons D.G.(1983), Background And Principles In MyofascialPain And Dysfunction- The Trigger Point Manual-The Upper Extremities, Baltimore ,Williams And Wilkins;1: 183-192 .
24. Kerry D'Ambrogio,P.T., and George Roth, D.C., N.D., through their Positional Release Therapy: Assessment & Treatment of Musculoskeletal Dysfunction Prochazka A, Gorassini M, Taylor J. Adaptive control of proprioception. In: Jami L,Pierrot-Deseilligny E, Zytnicki O, editors. Muscle afferents and spinal control of movement. New York: Pergamon Press; 1992. pp. 129–136

25. Prochazka A, Gorassini M, Taylor J. Adaptive control of proprioception. In: Jami L,Pierrot-Deseilligny E, Zytnicki O, editors. Muscle afferents and spinal control of movement. New York: Pergamon Press; 1992. pp. 129–136.
26. Osternig LR, Robertson R, Troxel R, Taylor J. Muscle activation during proprioceptive neuromuscular facilitation PNF stretching techniques. American Journal of Physical Medicine. 1987;66:298–307.
27. Muller MJ, Maluf KS. Tissue Adaptation to Physical Stress: A Proposed "Physical Stress Theory" to Guide Physical Therapist Practice, Education, and Research. Physical Therapy. 2002;82:383–403.
28. Cornelius WL, Craft-Hamm K. Proprioceptive neuromuscular facilitation flexibility techniques: acute effects on arterial blood pressure. PhysSportsmed. 1988;16:152–161.
29. Kassai T, Kawanishi M, Yahagi S. Evidence of Facilitation of motor evoked potentialsm (MEPs) induced by motor images. Brain Research. 1996;744:147–150.
30. Farrel JP, Jensen GM. Manual therapy: a critical assessment of role in the profession of physical therapy. Physical Therapy. 1992;12:843–852.

31. Shweta Anil Kulkarni (2017). Effectiveness of Ischemic compression versusMyofascial release on Myofascial trigger point of upper trapezius.International journal of allied medical sciences and clinical research (IJAMSCR)2347-6567.

32. Priyanka DevangRanna (2017). Effect of muscle energy technique versus positional release technique in computer workers with upper trapezius muscle spasm: A comparative study. International journal of multidisciplinary Research and development.2349-5979.

33. AmenehAmini (2017). The Effects of manual passive muscle shortening and Positional Release Therapy on Lateral Myofascial Trigger points of the Uppertrapezius: A double blind Randomized clinical Trial. Iran Red Crescet med.

34. DaniloHarudyKamonseki (2017). Translation and Validation of Neck Bournemouth Questionnaire to Brazilian Portuguese. Rev Bras Reumatol.141-148.

35. GurkanGunaydin (2016). Reliability, Validity, and Cross – cultural Adaptation of theTurkish version of the Bournemouth Questionnaire. Spine health Services Research

36. Tommaso Geri. (2015). Rasch analysis of the Neck Bournemouth Questionnaire to measure disability related to Chronic Neck Pain. Journal of Rehabil Med 47:836-843.

37. Ahmed Samir Mohamed Abdelhamid (2015). Ischemic Compression versus Traditional Physical Therapy in Treatment of chronic mechanical Neck Pin.International Journal of Advanced Research volume 3 Issue, 931-938

38. G. Yatheendra Kumar (2015).Effectiveness of Muscle energy technique, Ischemic Compression and Strain Counter Strain on Upper Trapezius Trigger points. A comparative study. International journal of physical education, sports and Health.

39. Sweety Charles Carvalho (2014).Effect of Positional Release Technique in subjects with subacuteTrapezitis. International Journal of physiotherapy vol1,91-99.

40. Tommaso Geri. (2014). Rasch analysis of the Neck Bournemouth Questionnaire to measure disability related to Chronic Neck Pain. Journal of Rehabil Med 45:831-833.

41. Barbara Cagnie 1, Vincent Dewitte, Iris Coppieters, Jessica Van Oosterwijck, Ann Cools, LievenDanneels. Effect of ischemic compression on trigger points in the neck and shoulder muscles in office workers: a cohort study. J Manipulative PhysiolTher 2013 Oct;36(8):482-9.doi: 10.1016/j.jmpt.2013.07.001. Epub 2013 Aug 28.
42. Anne M Boonstra 1, Henrica R SchiphorstPreuper, Michiel F Reneman, Jitze B Posthumus, Roy E Stewart; Reliability and validity of the visual analogue scale for disability in patients with chronic musculoskeletal pain Int J Rehabil Res 2008 Jun;31(2):165-9 doi:10.1097/MRR.0b013e3282fc0f93.
43. Gopal Nmbi (2013). Difference in effect between Ischemic Compression and Muscle energy technique on Upper trapezius Myofascial trigger point: Comparative study. Journal of Health and Allied Sciences.
44. JagatheesanAlagesan (2012). Effect of Positional Release Therapy and Taping on unilateral Upper trapezius Tender points. A randomized controlled trial. International journal of health and pharmaceutica, sciences ISSN 2278-0564
45. Aguilera (2009). Immediate effect of ultrasound and Ischemic techniques for the treatment of trapezius latent Myofascial trigger points in healthy subjects: A randomized controlled study journal of manipulative and physiological therapeutics,515-520.
46. Hugh Gemmell (2008) Immediate effect of Ischemic compression and trigger point pressure release on neck pain and upper trapezius trigger points: A randomized controlled trial. Intl.elsevierhealth.com journal