International Journal of Advance and Applied Research
www.ijaar.co.in
ISSN – 2347-7075 Impact Factor – 7.328
Peer Reviewed Bi-Monthly
Vol.9 No.5 May – June 2022

IMMEDIATE EFFECTS OF POSITIONAL RELEASE TECHNIQUE VERSUS CRYO-STRETCHING ON PAIN AND FUNCTIONAL ACTIVITIES IN COLLEGE GOING STUDENTS WITH UPPER TRAPEZITIS

Dr. Smit R. Shah (MPT In Neurology)[1],Vaishnavi Khanderao Zoman[2], Krupali Bharat Jadhav[3] ,Mahek Divyesh Patel[4]
[1]Assistant professor at Uka Tarsadia University, Bardoli, Surat
[2]BPT Intern at Uka Tarsadia University, Bardoli, Surat
[3]BPT Intern at Uka Tarsadia University, Bardoli, Surat
[4]BPT Intern at Uka Tarsadia University, Bardoli, Surat
Corresponding Author- Dr. Smit R. Shah (MPT In Neurology)
Email- smit.shah@utu.ac.in

Abstract
Background: *The trapezius is a leading muscle in the cervical, thoracic, and shoulder regions. The upper trapezius muscle is designated as postural muscle and it is highly vulnerable to overuse. The trapezius commonly contains trigger points and referred pain from trigger points.*
Aim of the Study: *To find out the effect of Positional Release Technique and Cryo-stretching on pain and functional activities on college going students with trapezitis.*
Materials and Method: *Total 84 number of participants were selected for this study as per inclusion and exclusion criteria. They were divided into two groups according to their demand i.e., 42 subjects in positional release technique and 42 subjects in Cryo-stretching accordingly. Then by using the Numerical pain rating scale (NPRS) and Northwick Park pain questionnaire (NPQ) pain and functional activities was measured respectively in each participant.*
Result: The statistically analysis of data was performed by SPSS[v25]; the statistical significance is set up at $p < 0.05$, for using t-test for present study.
Conclusion: Effectiveness on pain in Group B (Cryo-stretching) is comparatively more than Group A (positional release technique) and effectiveness on functional activities in Cryo-stretching and Positional Release technique is comparatively equal.

Keywords: *Trapezitis, Trigger points, positional release technique, Cryo-stretching, Numerical pain rating scale, Northwick Park neck pain questionnar.*

Introduction

The trapezius is a leading muscle in the cervical, thoracic, and shoulder regions. It extends from the occiput into the lower reaches of the thoracic region, and laterally it extends till the acromion. [1,2] The muscle contributes to Scapulohumeral rhythm through attachment on clavicle and scapula, and to head balance through muscular control of cervical spine. [3,4] Trapezitis pain occurs for when person does neck extension, it is occurred due to faulty posture during working, watching time, prolonged use of phone. The trapezius lies at neck and back area. This muscle helps in shrugging of shoulder and through neck movements. [5]The Trapezius may be a common muscle that is exposed to overuse. People who use their arms for extended periods of time that requires holding their arms out in front, like operating computers, bike riding, car driving or an assembly line worker will recognize a burning pain between the shoulder blades. (6,7) Work-related neck pain (WRNP) among female desk-job workers is above males thanks to computer usage exceeding 4–6 hours.[8,9,10] Trapezitis is inflammation of trapezius muscle. Trapezitis is very common condition with the 48.5% lifetime prevalence and also indicate that 60% of undergraduate students have pain because of this condition.[5] Trapezitis last longer than 3-6 months. It has been continuously increasing over past two decades.[6,7] Prolonged flexed neck posture of neck by use of devices may lead to the

spasm in the upper back along with tender points. If scapular stability is weakened that can also lead to contracted muscles. If spasm is not treated properly may cause the formation of trigger points.[11,12] Hyperirritable spot in skeletal muscle that is associated with a hypersensitive palpable nodule in a taut band. The spot is painful on compression and causes referred pain, referred tenderness, motor dysfunction.[13] The Aim of the Study is to find out the effect of Positional Release Technique and Cryo-stretching on pain and function on college going students with trapezitis.

Methodology

Inclusion Criteria:

Age group 18 to 25 years, Jump sign positive, Both genders are included, Patient's will be willingly participating, Patient has not taken any physiotherapy treatment in last 1 month.

Exclusion Criteria:

History of referred pain due to cervical pathology, Degenerative cervical spine disease, Healing fractures over the neck and upper back, Dermatitis over upper back or clotting disorder, wound over neck region, shoulder pathology, History of surgery to spine and shoulder, Cervical pathologies like radiculopathy and myelopathy.

Procedure:

The study sample consisted of 84 subjects. Subjects fulfilling the inclusion and exclusion criteria were selected. Subjects were divided into two groups. [GROUP A – Positional Release Technique (n=41) and GROUP B – Cryo-stretching (n=41)] NPRS and Northwick Park Neck Pain Questionnaire were used to assess pain and limited functional activities.

Positional Release Technique-

The assessor picks up the trigger points by palpation in the upper trapezius muscle by pincer palpation method and distinguishes with dots on the skin. Participants are made supine lying and relaxed by maintaining the cervical spine in a neutral position In the next step, the assessor achieves 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 was dropped. This is done three times in each treatment with a 20-s rest interval in between. Cryo-stretching: - Cryo-stretching consisted of the application of ice for 10 minutes till the part of trigger point was numbed. Later a 65 seconds passive static stretch was given over the upper trapezius with side flexion to the opposite side and within the stretch, 3 sets of 5secs isometric contractions were done for upper trapezius. Each participant was made to do active exercises of the neck including flexion-extension, lateral flexions, rotations and shoulder retractions each with 5 secs hold.

Statistical Analysis:

The Statistical software namely SPSS 20.0 were used for the analysis of the data. Descriptive statistical analysis has been carried out in the present study.

Table 1: Comparison of NPRS Between Group A And Group B

	GROUP A	GROUP B	t-value	p-value	RESULT
MEAN ± SD	1.8810± 1.41770	2.6667± 2.04423	-2.047	0.000	HS

Table 2: Group Comparison of NPQ Between Group A And Group B

	GROUP A	GROUP B	t- value	P lue	Result
MEAN ± SD	13.9792± 11.13040	13.9792± 11.13040	0.000	1.000	NS

Result

The Pain score by using NPRS for group A Mean ± SD = 1.88 ± 1.41 and for group B Mean ± SD = 2.66 ± 2.04, (P = 0.000).The Functional ability of Neck by NPQ for group A Mean ± SD = 13.97 ± 11.13, and for group B Mean ± SD = 13.97 ± 11.13, (P=1.00).

Discussion

The present study was steered to investigate and compare the immediate effects of positional release technique and cryostreching in reducing pain and improve functional activities in college going student with trapezitis. The subjects belonging to the present study were between age of 18 to 25 yrs. the subjects were matched for age and gender thus giving a homogenous population for study. The application of positional release technique is claimed to reduce unusual firing from the site of muscular irritation. Positional theoretically corrects neuromuscular hyperirritability and muscular hypertonicity and reduces tissue tension allowing for the resolution of inflammatory response and the release of fascial restriction.[14] The use of ice for treatment has been used since a long time. ice is the most commonly used entity for testing MSK injuries. cryotherapy causes vasoconstriction, reduces tissue metabolism oxygen uptake and inflammation, muscle spasm, stretching the muscle after trigger point release causes longer pain relief.[11]

Our study result shows that effectiveness of cryo-stretching is more on pain and effectiveness of PRT and cryo-stretching is equal on functional activities.

Conclusion

The result of the present study conducted in college going students on 84 participants who have trapezitis were treated with PRT and Cryo-stretching. After that we have accepted null hypothesis of this study. Hence it is concluded that there is significant difference between PRT and Cryo-stretching among patient with trapezitis in all outcome measures. Clinically it was observed that both techniques were equally effective but statistically cryo-stretching was more effective on pain.

References:

1.johnson g, bogduk n, nowitzke a, house d. Anatomy and actions of the trapezius muscle. Clinical biomechanics. 1994 jan 1;9(1):44-50.

2.perry j. Biomechanics of the shoulder, muscle control of the shoulder. The shoulder. 1988.

3.jothilingam m, sarniya s, alagesan j. Comparison of ultra sound therapy & transcutaneous electrical nerve stimulation in the treatment of upper trapezitis. Annals of the romanian society for cell biology. 2021 may 18;25(6):1964-71.

4.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.

5.bulbuli as, methe ad. Immediate effect of spray and stretch technique on trapezits: an experimental study. Journal of medical science and clinical research. 2017 apr;5(4):20591-6.

6.mahesh mr. A comparative study on the effectiveness of transcutaneous electrical nerve stimulation with myofascial release technique on trigger points in trapezitis (doctoral dissertation, ppg college of physiotherapy, coimbatore).

7.gerwin rd. A review of myofascial pain and fibromyalgia–factors that promote their persistence. Acupuncture in medicine. 2005 sep;23(3):121-34.

8.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 trapezitis. Journal of family medicine and primary care. 2021 aug;10(8):2839.

9.darivemula sb, goswami k, gupta sk, salve h, singh u, goswami ak. Work-related neck pain among desk job workers of tertiary care hospital in new delhi, india: burden and determinants. Indian journal of community medicine: official publication of indian association of preventive & social medicine. 2016 jan;41(1):50.

10.sain mk, meena ml. Occupational health and ergonomic intervention in indian small scale industries: a review. Int j recent adv mechanical engin. 2016;5(1):13-24.

11.parab m, bedekar n, shyam a, sancheti p. Immediate effects of myofascial release and cryo-stretching in management of upper trapezius trigger points–a comparative study.

12.dewar l. The myofascial release manual. Physiotherapy. 2001 jun 1;87(6):330.

13.godse p, sharma s, palekar tj. Effect of strain-counterstrain technique on upper trapezius trigger points. Indian journal of physiotherapy & occupational therapy. 2012 oct 1;6(4).
14.d'souza cj, abhilash pv, nepal n. The effect of positional release technique on upper trapezius myofascial trigger points: a case series.