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Effectiveness of Physiotherapy Intervention for Cervicogenic Headache Patients: A Literature Review

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ABSTRACT

Objective: The study was to find out physiotherapy intervention including Kinesio taping and muscle energy technique are beneficial for patients with cervicogenic head ache

Methods: article with the key words cervicogenic head ache, physiotherapy intervention, Kinesio taping and muscle energy technique were screened through the search engines such as google scholar, PubMed and coherence review from the year of 2012 to 2025, out of which 13 were selected with met selection criteria

Result: The literature review indicated that patients with cervicogenic headache showed significant improvements in pain, range of motion, posture, and disability after receiving combined Kinesio taping and manual therapy interventions.

Conclusion: physiotherapy management, including application of Kinesio taping and manual therapy, had a conspicuous effect to improve the range of motion, pain,

Keywords: Kinesio Taping, Cervicogenic Headache, Muscle Energy Technique, Pain

INTRODUCTION

Cervicogenic headache is pain referred to the head from a source in the cervical spine. The International Headache Society recognises cervicogenic headache as a distinct disorder. Physiologically, this pain is analogous to pain felt in the shoulder, chest wall, buttocks or lower limbs that is referred from spinal sources.(1)

The mechanism underlying the pain involves convergences between cervical and trigeminal afferents in the trigeminocervical nucleus, convergences between cervical allow for upper cervical pain to be referred

to the region of the head innervated by cervical nerves. Convergence with trigeminal afferents allows for referral into the parietal, frontal and orbital regions.

Prevalence of cervicogenic headache has been estimated to be 4.1% in the general population, and the prevalence is as high as 53% in patients with headache after whiplash.

First set of clinical diagnostic criteria, published in 1990 and revised in1988, the clinical feature most strongly indicative of cervicogenic headache was pain that radiates to the shoulder and arm, varying duration or fluctuating continuous pain, moderate, non-throbbing pain, and a history of neck trauma.(2)

Clinical criteria for the diagnosis of cervicogenic headache is1. unilateral headache without side sifts, 2. symptoms and signs of neck involvement (pain triggered by neck movement or sustained awkward posture and external pressure of posterior neck or occipital region, ipsilateral neck, shoulder, and arm pain, and reduced range of motion.)3. Pain episode of varying duration or fluctuating continuous pain, 4.moderate, non-excruciating pain, usually of a non-throbbing nature,5 pain staring neck, spreading to oculo- fronto-temporal areas, 6.anasthetic blockades abolish the pain transiently provided complete anesthesia is obtained, or occurrenceof sustained neck trauma shortly before onset, and 7.various attack related events, autonomic symptoms and flushing in the peri ocular area, dizziness, photophobia, phonophobia, or blurred vision in the ipsilateral eye.(3)

There are numerous therapeutic strategies for the treatment of cervicogenic headache, both manual therapy and Kinesio taping, with variable evidence regarding their respective efficacy. Kinesio taping has been the result of numerous studies regarding its applicability to cervicogenic headache, neck pain and cervical radiculopathy. In which its efficacy has been high, and there has been an improvement in the symptoms of the subjects in the studies.

Objective of this study is carried out a literature review to analyze evidence in the literature regarding Kinesio taping and muscle energy technique in people suffering from cervicogenic head ache and the main aim of this literature study is to find out whether Kinesio taping and muscle energy technique is use full in improving range of motion, posture, reducing pain and quality of lief of cervicogenic head ache patients.

Methodology

Design: We thoroughly searched and found the relevant article using keywords on the online search engines like PubMed and Google Scholar published between the years 2012 and 2025. The articles received between these dates had undergone a two-step screening process, the first being screening of the article or abstract and the second being screening of the full text. All irrelevant articles were excluded.

Search strategy: a thorough search done on the search engine like Google Scholar and PubMed using the keywords “muscle energy technique”, “Kinesio taping”, and “cervicogenic headache”

Inclusion and exclusion criteria

Subject with cervicogenic head ache were included, the intervention required one of the groups was muscle energy technique, Kinesio taping techniques. Article that included other technique in the experimental group were also accepted, as long as the control group received them in the same way. The studies included article like literature review, meta-analysis, RCT were also included. The excluded article was those which published before 2012, paid article or unavailability of full text and abstracts.

Results

We analysed the search engines as mentioned above, and that search produced a total of 56 results for kinesiotherapy, 52 results for muscle energy technique and a total of 108 results, out of which 31 were

duplicate records. The remaining 77 underwent screening, and 52 records were eliminated. After the second screening, 25 articles were selected, of which 13 articles were finally selected which met all the inclusion and exclusion criteria.

All reviewed studies consistently supported manual therapy, including Kinesio taping and muscle energy technique, as beneficial for cervicogenic headache patients. The main findings show improvements in range of motion, pain reduction, decreased disability, and improved posture. A few studies also emphasise that these interventions can help prevent disability in this patient population.

There was lack of studies the effect of combined Kinesio taping and muscle energy technique for cervicogenic headache patient. The study which was found show that Kinesio taping helped in improving quality of life. In another studies, manual therapy including Kinesio taping ad muscle energy technique for cervicogenic head ache showed marked improvement in there, sleep, functional activity, migraine in patient with cervicogenic head ache.

Discussion

in general, in the article analyzed in this review, the data showed significant decrease in pain and pain was measured by visual analogue scale and numeric pain rating scale ,where in the long term effects data showed significant improvement in head ache disability ,cervical range of motion, neck functional disability, pain threshold, cervicovertebral angle and quality of life, there was measured by head disability index, cervical range motion device, neck disability index, posture analysis software, henry ford head ache disability inventory.

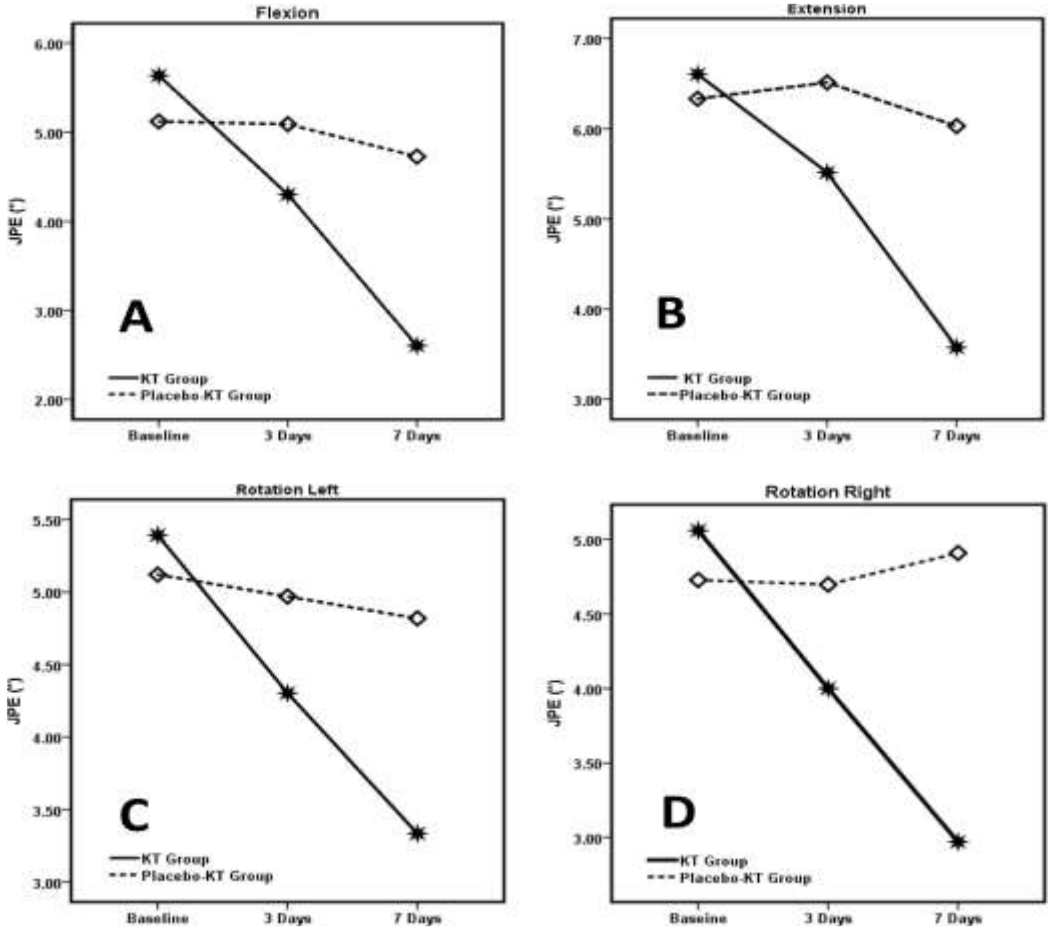
In term of the treatment against which the Kinesio taping muscle energy technique, manipulation including mulligan mobilization and thrust manipulation group were compared, evidence show that Kinesio taping is an effective treatment for cervicogenic headache patient.

Several authors have also shown that the muscle energy technique is effective for cervicogenic headache. There is between 85% and 95% good result with these interventions, it should be taken into account that the application of Kinesio taping that the application of Kinesio taping technique at neck level is painless, without side effect for the patients

According to the analysis of results provided by studies included this study, Kinesio taping applications was the subjects in the experimental group received KT in addition to the conventional physiotherapy treatment provided to the control group. The tape was applied over the splenius capitis and semispinalis muscles on both sides. A Y-cut strip of kinesiotape was used, measured from the T5 vertebra to the base of the skull. The base of the Y-strip was applied over the spinous process of the T5 vertebra with the neck in a neutral position. With the patient's neck in flexion, the medial tail was applied from the T5 to the C5 vertebra and then angled toward the mastoid process with light tension. The patient's neck was then moved into flexion and lateral rotation toward the opposite side. The lateral tail of the Y-strip was applied toward the mastoid process. The same strip was applied symmetrically on the opposite side [Figure 1]. For the relaxation of forehead muscles, two strips were applied at a 45° angle above each eyebrow with light tension, extending from the medial aspect of the eyebrow toward the hairline.

application of Kinesio tapping

The Muscle Energy TechniquesPatient was positioned in supine position and post isometric relaxation technique was used, following steps were performed: Step 1: Stretch the muscle up to the resistance barrier or as tolerated by patient. Step 2: Active isometric contraction by patient and resistance by therapist Step 3: Cessation of active contraction while therapist maintains the stretch muscle is allowed to rest. Step 4: therapist performs passive stretching to new barrier level Step 5: Process is repeated for several times. Over all data the treatment duration was between the 3 to 6 weeks, most commonly 3 session per week, 12 session per month conducting in these studies,



Reference picture difference between the two groups

Conclusion

Kinesio taping and muscle energy technique are effective techniques and improve the clinical outcome of patients with cervicogenic headache; however, a lack of studies on the combined effect of Kinesio taping and muscle energy technique, as well as the times used in the treatment, makes future studies necessary to present concise data on these aspects.

According to the data provided by the studies analysed, none of the participants had adverse reaction to Kinesio taping and muscle energy technique and none dropped out of the study due to worsening symptoms and the all outcome of people with cervicogenic head achein the short and long term.

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