WORLD JOURNAL OF PHARMACY AND PHARMACEUTICAL SCIENCES
SJIF Impact Factor 6.647
Volume 6, Issue 6, 328-337 Research Article ISSN 2278 – 4357

KINESIO TAPING IN MANAGEMENT OF CERVICOGENIC HEADACHE

***Lamia Abdulaziz Alanzy, [1]Ghadeer Ghazy Alanzy and [2]Dr. Mohamed Raafat**

India.

Article Received on
13 April 2017,

Revised on 03 May 2017,
Accepted on 23 May 2017,

DOI: 10.20959/wjpps20176-9425

***Corresponding Author**
Lamia Abdulaziz Alanzy
India.

ABSTRACT

Background: Neck pain is a common complaint in the general public with an estimated lifetime prevalence of 67% among adults aged 20–69 years and an estimated cost of 1% of total health expenditures. ***Objective:*** To compare between the effect of traditional treatment, low level intensity laser and Medical Kinesio Tapping on cervicogenic headache. ***Methodology:*** This study was conducted to investigate the effect of low power laser treatment and kinesio taping in chronic cervicogenic headache. And to compare traditional treatment, low power laser treatment and kinesio taping in chronic cervicogenic headache. ***Results:*** Primary outcomes (pressure pain threshold, forward head position and neck disability index) were measured at baseline, prior to the treatment (pre-test data) and after the completion of the 6 weeks treatment program, as a post-test measurement. ***Conclusion:*** kinesio taping assist on improving neck disability index, increasing pressure pain threshold of MTrPs and assist in the treatment of cervical pain in patients with cervical dysfunction. Kinesio taping can improve forward head posture.

KEYWORDS: *kinesio taping, cervicogenic, headache, pain.*

1. INTRODUCTION

Neck pain is a common complaint in general population with an estimated prevalence of 67% among adults (20–69 years) and an estimated cost of 1% of total health expenditures. Although probably not as frequent and disabling as low back pain, neck pain still constitutes a major burden on patients in terms of pain, disability and absence from work (**Dommerholt et al., 2005 and Aaseth et al., 2011)**.

Cervicogenic headache (CEH) is a secondary headache characterized by unilateral headache and symptoms and signs of neck involvement.[1–5] It is often worsened by neck movement, sustained awkward head position or external pressure over the upper cervical or occipital region on the symptomatic side. A recent epidemiological survey found that the prevalence was 0.13% in men and 0.21% in women applying three or more major CHISG criteria **(Aaseth et al., 2008 and Knackstedt et al., 2010).**

Bärtschi, (1968), maintained that the first clinical description of a headache linked to a problem in the neck was published by **Schützenberger, in 1853.** Unfortunately, this description is not available in the literature. In a 1913 report – this is the first clinically significant one that weare able to access – **Holmes, (1913)**, claimed that headache could originate from the neck. This author described headaches associated with the presence of painful nodules in the posterior muscles of the neck, which he attributed to fibrositis. This provided the basis for the subsequent definition of "rheumatic headache", which was described by others writing at this time **(Edmeads, 2001).**

Barré, in 1926, described a headache with greater intensity in the occipital region, associated with dizziness and with hearing and visual disturbances and called this picture "posterior cervical sympathetic syndrome". In 1928, Lieou added "pain referred to the larynx and pharynx". In 1940, Haddon described a clinical picture characterized by unilateral pressing pain, starting in the suboccipital region and radiating anteriorly to the temporal and often also to the retro-orbital region unilaterally. This clinical picture was sometimes associated with photophobia and in severe cases, pallor, profuse sweating, hyperaesthesia in the nerve distribution area and on occasions, also with vomiting.

It was to be a few more years before reports appeared that led to the inclusion, in the sphere of headache originating from the neck, of cases in which the pain was induced by the stimulation of trigger points ("mechanical headache")**(Bigal and Lipton, 2007).**

Barré, in 1926, described a headache with greater intensity in the occipital region, associated with dizziness and with hearing and visual disturbances and called this picture "posterior cervical sympathetic syndrome". In 1928, Lieou added "pain referred to the larynx and pharynx". In 1940, Haddon described a clinical picture characterized by unilateral pressing pain, starting in the suboccipital region and radiating anteriorly to the temporal and often also to the retro-orbital region unilaterally. This clinical picture was sometimes associated with

photophobia and, in severe cases, pallor, profuse sweating, hyperaesthesia in the nerve distribution area and, on occasions, also with vomiting.

It was to be a few more years before reports appeared that led to the inclusion, in the sphere of headache originating from the neck, of cases in which the pain was induced by the stimulation of trigger points ("mechanical headache")(Bigal and Lipton, 2007).

Kinesio taping method is a somewhat new type of taping technique in which one uses Kinesio Tape (KT). It was originally created by a Japanese chiropractor, Kenzo Kase in 1980 and has gained popularity in the clinical setting. The tape is approximately the same thickness as the epidermis, made of polymer elastic strand wrapped by 100% cotton fibers, which allows for fast evaporation of body moisture and drying **(Gonzalez et al., 2009).**

The tape uses no latex and the adhesive properties are 100% acrylic which has heat-activated glue. The tape is lightweight and thin in order for it to feel like part of the body. It is able to stretch 140% of its resting length and can stay on the body for about 3-5 days including in the shower without compromising the adhesive quality **(Kase et al., 2003).** According to the manufactures of the tape, KT is hypothesized: to provide a positional stimulus through the skin; to align fascial tissues; to create more space by lifting fascia and soft tissue above area of pain/inflammation; to provide sensory stimulation to assist or limit motion; and to assist in the removal of edema by directing exudates toward a lymph duct **(Thelen et al., 2008).**

How the tape is applied determines the function it will provide. Therefore, practitioners need to identify which of the functions KT needs to serve and thus apply the tape accordingly. Although KT has been widely used in rehabilitation protocols and prevention of sports injuries by people in the healthcare field such as physical therapists and athletic trainers, **(Kaya et al., 2011)**, scientific evidence for the efficacy of KT is somewhat limited. One of the well documented effects of KT is on decreasing pain symptoms for patients **(Castro et al., 2012 and Saavedra et al., 2012).**

Several randomized double-blinded trials have been conducted to demonstrate the efficacy of KT in pain reduction. For example, Gonzalez-Iglesias and his colleagues **(Halseth et al., 2004)** examined the efficacy of KT on patients with acute whiplash-associated disorders (WADs). Patients reporting neck pain as a result of motor vehicle accident within 40 days of injury compared to the sham group.

Purpose of the study

The purpose of this study is:

- To compare between the effect of traditional treatment, low level intensity laser and Medical Kinesio Tapping on cervicogenic headache.
- To compare between low level intensity laser and Medical Tapping on cervicogenic headache in terms of pressure pain threshold.
- To compare between low level intensity laser and Medical Tapping on cervicogenic headache in terms forward neck position.
- To compare between low level intensity laser and Medical Tapping on cervicogenic headache in terms of neck function.

2. METHODOLOGY

1. Design of the study

Pretest-posttest control group design. Forty five patients with chronic cervicogenic headache pain were assigned into three groups:

Group (A): Control group, included 15 subjects received the traditional physical therapy rehabilitation program for 6 weeks.

Group (B): first experimental group, included 15 subjects received the traditional physical therapy program and add low power laser therapy for 6 weeks.

Group (C): second experimental group, included 15 subjects received the traditional physical therapy program and add kinesio taping for 6 weeks.

Primary outcomes (pressure pain threshold, forward head position and neck disability index) were measured at baseline, prior to the treatment (pre-test data), and after the completion of the 6 weeks treatment program, as a post-test measurement **(Kostopoulos et al., 2008 and Cherkin et al., 2009).** All patients received treatment3times weekly over six week's period of time.

Traditional treatment include: postural correction exercises and stretching exercises to the cervical muscles.

This study was conducted to investigate the effect of low power laser treatment and kinesio taping in chronic cervicogenic headache. And to compare traditional treatment, low power laser treatment and kinesio taping in chronic cervicogenic headache.

Forty five patients with chronic cervicogenic headache pain were assigned into three groups each group included 15 subjects. Control group (traditional treatment group), first experimental group (low power laser) and second experimental group (kinesio taping).

Fig. 1: Showing patient during a session.

3. RESULTS

Epidemiologic Results: The three groups were homogenous in age, weight, height and gender. As there was no significant difference between the three groups in age, weight, height and gender.

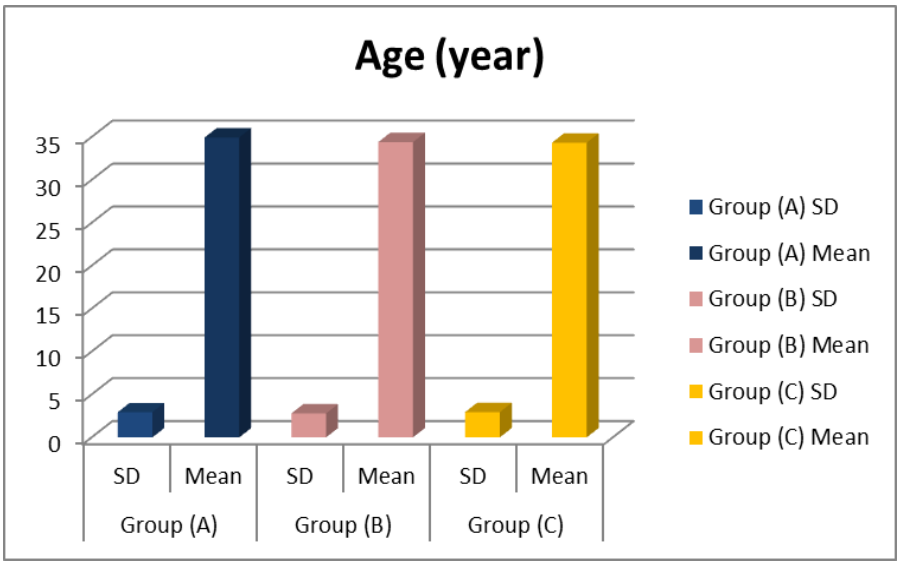

Fig. 2: Histogram of participant's age.

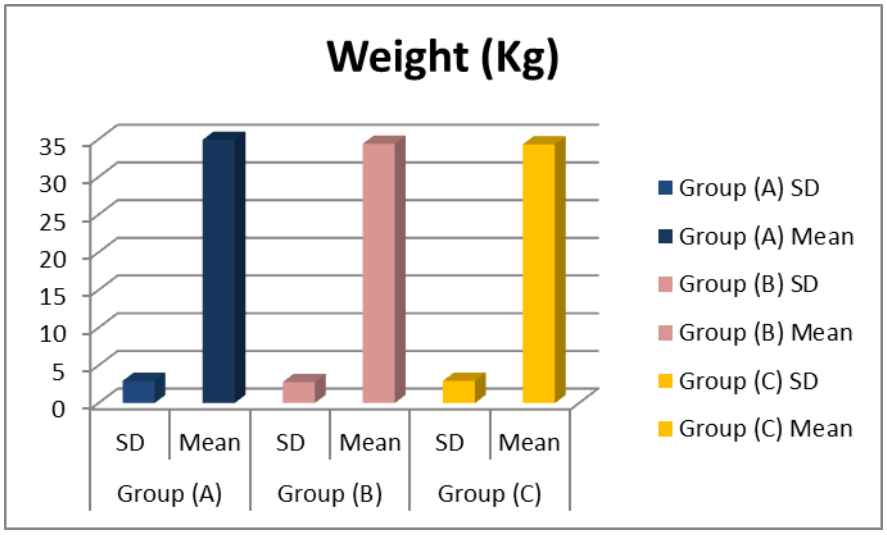

Fig. 3: Histogram of participant's weight.

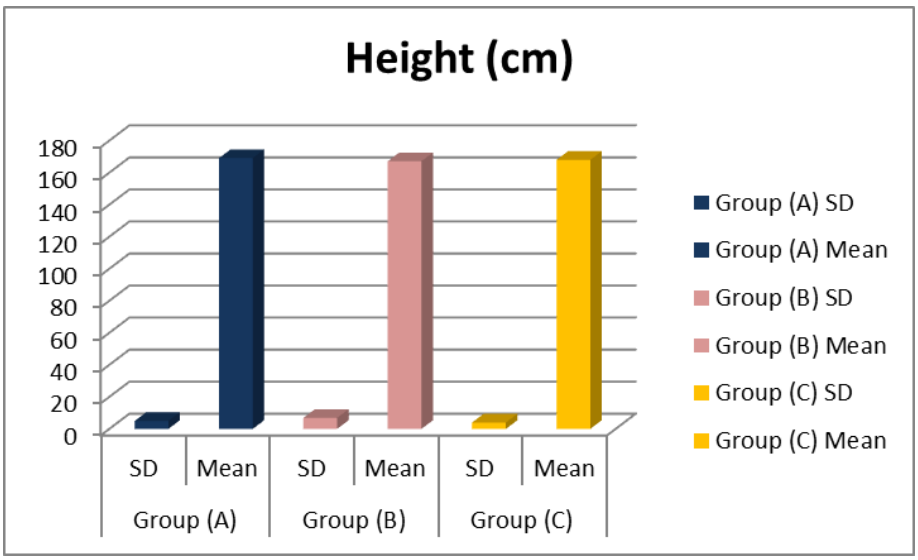

Fig. 4: Histogram of participant's height.

Between subjects comparison by using analysis of variance test revealed that there was no significant difference among the three groups for the pretreatment pain pressure threshold, Neck disability index and forward head posture as P value was (0.61), (0.91) and (0.76) respectively.

While there was a significant difference for the post treatment pain pressure threshold, Neck disability index and forward head posture as P value was (0.0001), (0.0001) and (0.0001) respectively.

For pain pressure threshold there was a significant difference between traditional treatment group and low power laser group as P value was (0.0001) and between low power laser group

and kinesio taping group as P value was (0.0001) and finally between traditional treatment group and kinesio taping group as P value was (0.0001).

For Neck disability index there was a significant difference between groups traditional treatment group and low power laser group as P value was (0.0001), traditional treatment group and kinesio taping group as P value was (0.0001) and Finally, between groups low power laser group and kinesio taping group as P value was (0.005).

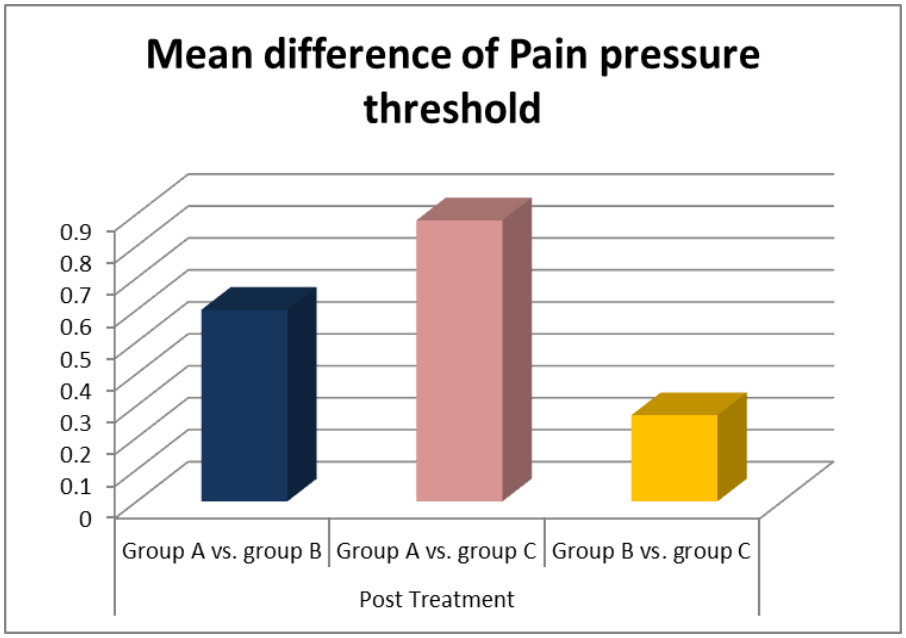

Fig. 5: Histogram of participant's pain pressure threshold.

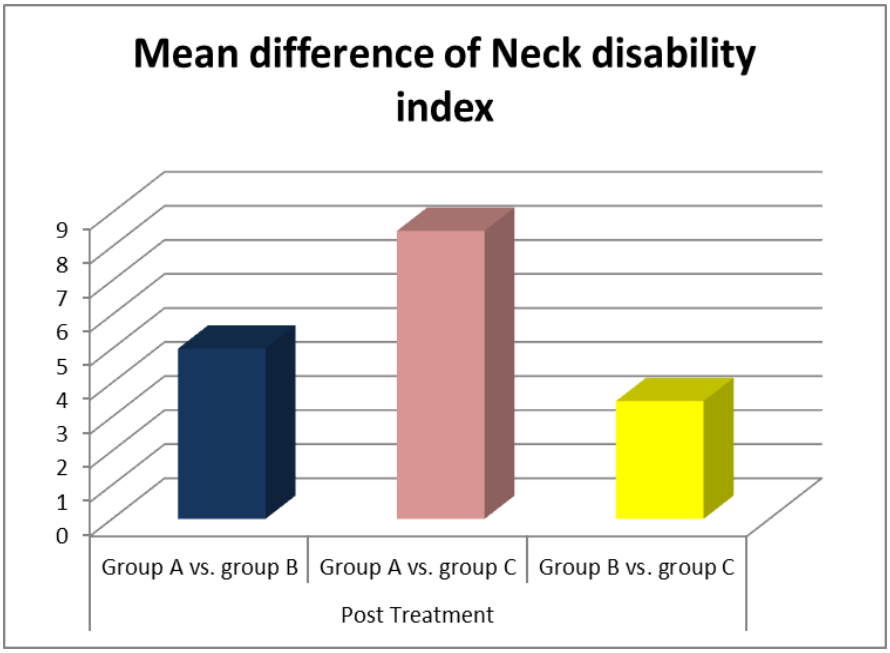

Fig. 6: Histogram of neck disability index.

4. DISCUSSION

This study demonstrated that there was significant improvement in pressure pain threshold and functional outcome measured by neck disability index in both experimental groups as compared to the control group.

Although there are numerous studies that have there are numerous studies that have addressed the issue of manual therapy in neck pain, but no studies have utilized kinesio taping as intervention study in neck pain and so it compliments with previous studies that investigated the effect of progressive pressure release on cervical, thoracic and lumbar range of motion.

The percentage improvement in pressure pain threshold was more in the both experimental groups as compared to the control group. These findings are comparable to the research of which showed that low power laser therapy decreases disability and improves function, range of motion in patients with mechanical cervical pain.

This improvement in experimental group possibly may be due to rapid hypo analgesic effects of low power laser therapy –induced analgesia and is generally consistent with the proposed mechanisms of action for the low power laser therapy and is used to treat somatic dysfunctions that result in cervical motion restriction. In a recent randomized clinical trial substantial improvement in the neck disability index was observed in the groups, but no significant differences between groups reported ($p > 0.05$).

In contrast to these findings, our study demonstrated that experimental group had significantly improved in neck disability score ($p < 001$) than control group after six weeks of treatment. Because the neck disability index assesses different aspects of neck pain and consists of pain intensity, daily activities, it is suggested that improvement in the score might be due to combined effects of reduction in pain and improvement in neck muscle strength.

5. CONCLUSION

kinesio taping assist on improving neck disability index, increasing pressure pain threshold of MTrPs and assist in the treatment of cervical pain in patients with cervical dysfunction more than both Low power laser treatment and traditional treatment alone.

6. REFERENCES

1. Aaseth K, Grande RB, Benth JS, Lundqvist C, Russell MB (2011) 3-Year follow-up of secondary chronic headaches: The Akershus study of chronic headache. Eur J Pain, 15(2): 186–192.
2. Aaseth K, Grande RB, Kvaerner KJ, Gulbrandsen P, Lundqvist C, Russell MB (2008) Prevalence of secondary chronic headaches in a population-based sample of 30–44-year-old persons. The Akershus study of chronic headache. Cephalalgia, 28(7): 705–713
3. Akansha S, Abdul HU, Shalini G. Multimodal therapy in cervicogenic headache — a randomized controlled trial. Indian J Physiother Occup Ther. 2011; 5: 9–13.
4. Aktas G, Baltaci G. Does Kinesiotaping increase knee muscles strength and functional performance? Isokinet Exerc Sci. 2011; 19: 149–155.
5. Antonaci F, Bono G, Chimento P. Diagnosing cervicogenic headache. J Headache Pain 2006; 7: 145–148.
6. Antonaci F, Ghirmai S, Bono G, Sandrini G, Nappi G. Cervicogenic headache: Evaluation of the original diagnostic criteria. Cephalalgia, 2001; 21: 573–583.
7. Balshem H, Helfand M, H.J. S, et al. GRADE guidelines: 3. Rating the quality of evidence. J Clin Epidemiol, 2011; 64: 401-6.
8. Barré M (1926) Sur un syndrome sympathique cervical postérieur et sa cause fréquente: l'arthrite cervicale. Rev Neurol, 33: 1246–1248.
9. Bärtschi-Rochaix W (1968) Headaches of cervical origin. In: Vinken PJ, Bruyn W (eds) Handbook of clinical neurology. Vol. 5: Headache and cranial neuralgia. North Holland, Amsterdam, pp 192–203.
10. Belanger A. Laser. Evidence-based guide to therapeutic physical.
11. Belanger A. Laser. Evidence-based guide to therapeutic physical agents. Philadelphia: Lippincott Williams & Wilkins 2003; pp. 191221.
12. Bigal ME, Lipton RB. The differential diagnosis of chronic daily headaches: An algorithm-based approach J Headache Pain 2007.
13. Bjordal JM, Lopes-Martins R, Johnson MI, Chow R. Inaccuracies in laser therapy meta-analysis for neck pain? J Physiother, 2010; 56(4): 282.
14. Bjordal JM, Lopes-Martins R, Johnson MI, Chow R. Inaccuraciesin laser therapy meta-analysis for neck pain? J Physiother 2010; 56(4): 282.
15. Blatter BM, Bongers PM. Duration of computer use and mouse use in relation to musculoskeletal disorders of neck or upper limb. International Journal of Industrial Ergonomics. 2002; 30: 295-306.

16. Bogduk N (2004) The neck and headaches. Neurol Clin, 22(1): 151–71, vii.
17. Bogduk N, Govind J (2009) Cervicogenic headache: an assessment of the evidence on clinical diagnosis, invasive tests, and treatment. Lancet Neurol, 8(10): 959–968.
18. Borusiak P, Biedermann H, Bosserhoff S, Opp J (2010) Lack of efficacy of manual therapy in children and adolescents with suspected cervicogenic headache: results of a prospective, randomized, placebo-controlled and blinded trial. Headache, 50(2): 224–230.
19. Briem K, Eythorsdottir H, Magnusottir RG, Palmarsson R, Runarsdottir T, Sveinsson T. Effects of kinesio tape compared with nonelastic sports tape and the untaped ankle during a sudden inversion perturbation in male athletes. J Orthop Sport Phys. 2011; 41(5): 328–335. [PubMed].