




EFFECTS OF BOWEN THERAPY IN PATIENTS WITH TENSION-TYPE HEADACHE: A RANDOMIZED CONTROLLED TRIAL

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ABSTRACT

Background of the Study: Bowen therapy is a non-pharmacological method for treating a variety of pain conditions, but its effectiveness in treating tension-type headaches is unknown. We compared the effectiveness of Bowen therapy to a sham treatment.

Methodology: In a multi-center randomized controlled trial, the young adults with a tension-type headache were selected from the Neurology Department of DHQ hospital Sargodha and Niazi Medical Complex, Sargodha, with convenient sampling. A priori sample size calculation determined that 44 participants were needed. The participants were randomly assigned to two groups. Bowen Therapy (n=22) and Sham Treatment (n=22) groups were enrolled. The Bowen therapy was devised for two weeks. The measurement was taken at baseline and after two weeks. SPSS 22 was used for data analysis.

Results: At baseline, there was no difference found in the Bowen therapy and Sham treatment

groups. We have noticed a significant decrease in the severity of pain and improvement in pain pressure threshold assessed by the visual analogue scale (VAS) and algometer in the Bowen therapy group after two weeks (<0.05). However, no changes in pain intensity were found in the sham therapy group. Furthermore, the headache frequency was also reduced in Bowen therapy compared to the sham therapy group (<0.05) after the study period.

Conclusion: The findings suggest that Bowen Therapy might be a beneficial and effective treatment for a tension-type headache. Further studies are needed using older adult's participants.

Keywords: *Non-pharmacological intervention, Bowen Therapy, Tension-type headache, Pain intensity, myofascial tissues, ligaments*

Introduction

Bowen Therapy is a pleasant, relaxing, and holistic rehabilitative therapy that can be used to treat a variety of health issues, including musculoskeletal disorders¹. Although Bowen therapy is widely used for treating musculoskeletal conditions, it has not been studied extensively enough to provide evidence of its effectiveness. Bowen Therapy, also termed Bowen Technique or Bowen Work, is a manual therapy that involves a particular way of manipulating soft tissues. It was named after Thomas Bowen, an Australian manual therapist who worked in Victoria from 1959 to 1982². Although Bowen Therapy is based on descriptions of Bowen's work provided by people

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who were present when he practiced it, the name was not given to the technique until after he passed away³. It functions by rolling over particular muscle groups to trigger the nervous system's recognition of muscle tension⁴. This rolling helps to lift the fascia, which helps to relieve muscle tension^{1,5}. Bowen moves are a set of precise, gentle pressure moves performed on specific points of muscles, myofascial tissues, ligaments, and tendons with the thumbs and fingers during a Bowen Therapy session. Two-to-five-minute pauses separate the movements to allow the body to respond^{3,6}. Bowen Therapy is commonly used for treating various musculoskeletal issues conditions as well as suggested gastrointestinal, endocrine, and respiratory problems^{6,7}. The most common primary headache in adults is a Tension-type headache. It is also known as a stress headache, a muscle contraction headache, or a psychogenic headache. There are two types of headaches: episodic and chronic. The frequency of episodic headaches may be high or low⁸. The duration of a headache can range from a few minutes to a week. The intensity is usually mild to moderate, with a band-like sensation around the head^{9,10,11,12}. Two out of three people experience tension headaches at some time in their life. Differences according to gender were significant with a male: female ratio of 4:5 in a tension-type headache¹². It has a substantial impact on general life activities, moods, and daily work. Its pathogenesis is not known; however, it is suggested to have linked to peripheral myofascial and central mechanisms². It is challenging to treat due to unknown pathogenesis; the widely used treatments are physical therapy, medication, Soft tissue manipulations, relaxation, and cognitive therapy^{13,14}. A randomized controlled trial in a healthy population showed that Bowen Therapy improved flexibility in the hamstrings¹⁵. Similarly, in another study, Bowen therapy significantly improved chronic pain after eight weeks². However, the effects of Bowen Therapy on the physiological effects are still not well established. There are primarily assertions that it acts by rebalancing autonomic nervous system activity, altered myofibroblast activity, muscle relaxation, and changes in collagen type by normalizing muscle, fascia, and cutaneous sensory receptors. These theories were not yet tested in either healthy or clinical populations^{2,4,6,15}. Currently, there are no high-quality trials that examine the effects of Bowen Therapy on various clinical populations. The effects of Bowen therapy in treating tension-type headaches is unknown. We compared the effectiveness of Bowen therapy to a sham treatment.

Methodology

In a multi-center randomized controlled trial, the young adults with a tension-type headache were selected from the Neurology Department of DHQ hospital Sargodha and Niazi Medical Complex, Sargodha, with convenient sampling. A priori sample size calculation determined that 44 participants were needed. Participants were recruited having an age range between 18-35 years. They had pain for the last three months and had taken regular analgesic medication. Subjects were advised to use their normal analgesics and avoid any new remedy during the study. Subjects were excluded if they had any significant structural acquired or congenital changes in the spine, were pregnant, had postural changes, or had a significant neurological, musculoskeletal, or cardiac disease. The subjects were randomly allocated to Bowen therapy (n=22) and the sham treatment groups (n=22). Subjects in the Bowen therapy group and the Sham therapy group received six treatment sessions for two weeks. Each session was comprised of 15-20 minutes. A trained physical therapist performed these sessions on specific points of muscles, myofascial tissues, ligaments, and tendons with the thumbs and fingers (Fig 1). The investigators who collected the outcome measures were unaware of the groups. Pain intensity, pain pressure threshold was assessed by the visual analogue scale and algometer, respectively. All the measurements were

taken before and after two weeks. SPSS 22 was used for data analysis. The data was presented in mean and standard deviation. After two weeks of treatment sessions, the changes in the Bowen therapy and sham therapy groups were assessed using an unpaired t-test. The <0.05 p-value was set as significant. SPSS (version 22) for Windows was used to conduct the statistical analysis.



Fig 1: Bowen Therapy application in Tension-type headache

Results

The majority of those who took part in the study were women (60%) as compared to males (40%). Their mean age was 25±3.2. At baseline, there was no difference found in the Bowen therapy and Sham treatment groups in any variable. We observed a significant improvement in the intensity of pain assessed by the visual analogue scale (VAS) in the Bowen therapy group after two weeks (<0.05) (Fig. 2). However, no significant changes in pain intensity were found in the sham therapy group.

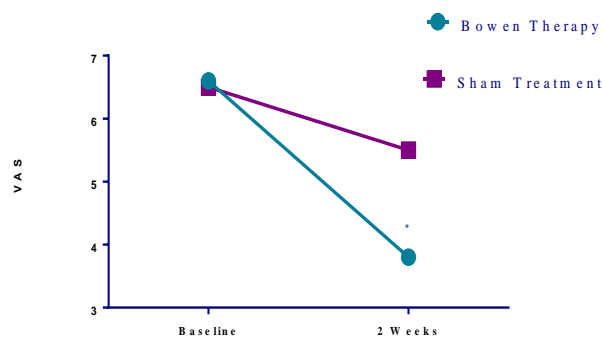


Fig. 2: Pain intensity on VAS in Bowen Therapy and sham treatment group at baseline and after two weeks. We observed a significant improvement in the pain pressure threshold assessed by the algometer in the Bowen therapy group after two weeks (<0.05). (Fig 3).

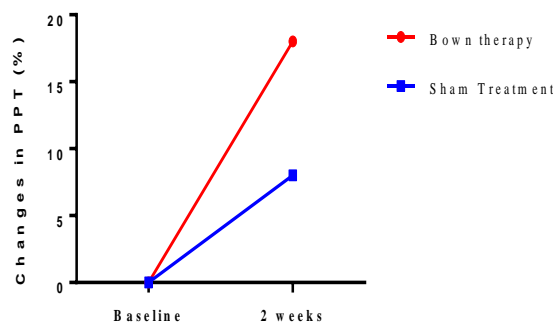


Fig. 3: Pain pressure threshold changes in Bowen Therapy and sham treatment group at baseline and after two weeks. The headache frequency was also reduced in Bowen therapy as compared to the sham therapy group (<0.05) after the study period (Fig. 4).

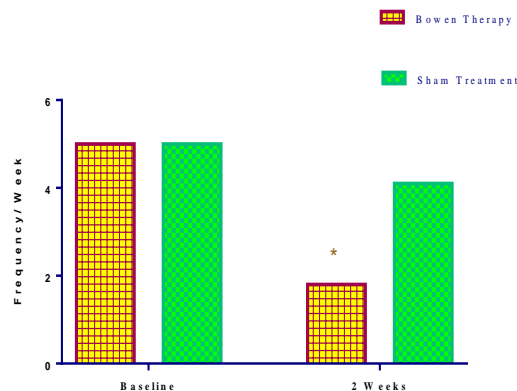


Fig 4: Pain frequency (Weekly) in Bowen Therapy and sham treatment group at baseline and after two weeks. Outcome measures: Pain intensity, Pain pressure threshold, pain frequency.

Discussion

The first randomized controlled trial was conducted to investigate the effects of Bowen Therapy on patients with a tension-type headache. The study results revealed that Bowen Therapy could reduce pain severity and frequency of headaches in young adults after two weeks. Headaches are caused by muscular tension. It is frequently caused by poor sleeping habits/positions, bad posture, fatigue, or a high stress level. It has the sensation of a band of pressure around the head, starting at the point of tension and moving upward to cause pain. Bowen therapy relieves this tension, which lessens the severity of headaches⁹. Our findings suggested that most of the subjects in the Bowen therapy group reduced pain severity after six sessions comprised over two weeks. In line with our results findings, different studies reported the effectiveness of Bowen therapy in reducing the severity of pain intensity in patients having musculoskeletal pain⁶. Similarly, in another study, scientists advocated that the short-term application of Bowen therapy can be helpful to improve quality of life, mental function, and wellbeing^{16,17}. Bowen Therapy may help to establish a new proprioceptive benchmark that should be incorporated into the body structure. Bowen therapy acts on the autonomic nervous system. It is suggested that it inhibit the sympathetic nervous system and activate the parasympathetic nervous system. Following chronic pain treatment, numerous studies have discovered an increase in parasympathetic activity^{18,19}. Therefore, it may be speculated that Bowen therapy activates the periaqueductal grey and descending inhibitory pathway^{2,20}. Bowen therapy is a gentle stretching of the fascia that can be easily applied to soft tissues with no side effects. Manipulation, on the other hand, can cause tenderness. Previous literature examining the effects of manipulation of the spine demonstrated conflicting results²¹⁻²³. Malourries and his fellows observed no effect of cervicothoracic manipulation on pain pressure threshold^{22,23}. However, a substantial benefit was seen in cervical range of motion and headache²⁴. In contrast, Rampazo and colleagues reported an increase in pressure pain threshold in cervical spine after applying manipulation on trigger points²¹. Likewise, De-Silva and fellows also observed an increase in pain pressure threshold after manipulating cervical spine²². Differential study results could be explained by differences in the intervention and study procedures. Despite this, the current study finding of a trend toward an improvement in Pain pressure threshold after

the application of Bowen Therapy maybe since it has a hypoalgesic effect. Bowen therapy may also help to restore fascial flexibility^{25,26}. We used a sequence of applications of Bowen therapy on peri-cranial musculatures to standardize the application of Bowen Therapy. Future studies are warranted on large sample sizes and old adults having a tension-type headache.

Conclusion

Bowen Therapy might be a beneficial and effective treatment for a tension-type headache

AUTHORS' CONTRIBUTION:

The following authors have made substantial contributions to the manuscript as under:

Conception or Design: *Ayesha Basharat*

Acquisition, Analysis or Interpretation of Data: *Muhammad Mustafa Qamar*

Manuscript Writing & Approval: *Qurba Kiran, Fatima*

All authors acknowledge their accountability for all facets of the research, ensuring that any concerns regarding the accuracy or integrity of the work are duly investigated and resolved.

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