

## ORIGINAL ARTICLE

# Effects of Bowen Technique in Postural Neck Pain among Dentists

NIDA ASLAM<sup>1</sup>, YASIR KAZMI<sup>2</sup>, AYESHA MAQBOOL<sup>3</sup>, MUHAMMAD USMAN KHALID<sup>4</sup>, MUHAMMAD HASSAN<sup>5</sup>, HAROON MANSHA<sup>6</sup><sup>1</sup>Lecturer, Multan College of Rehabilitation Sciences, Multan Medical & Dental College, Multan, Pakistan.<sup>2</sup>Assistant Professor, Department of Physiotherapy, Shahida Islam Medical College of Rehabilitation Sciences Lodhran.<sup>3</sup>Senior Lecturer, Multan College of Rehabilitation Sciences, Multan Medical & Dental College, Multan, Pakistan.<sup>4</sup>Assistant Professor, Multan College of Rehabilitation Sciences, Multan Medical & Dental College, Multan, Pakistan.<sup>5</sup>Assistant Professor Multan College of Rehabilitation Sciences, Multan Medical & Dental College, Multan, Pakistan.<sup>6</sup>Assistant Professor, Multan College of Rehabilitation Sciences, Multan Medical & Dental College, Multan, Pakistan.Correspondence to Haroon Mansha Email: [haroonmansha978@gmail.com](mailto:haroonmansha978@gmail.com), Phone: 03074322646

## ABSTRACT

**Background:** Prolonged forward neck posture is one of the common sources for neck pain among Dentists. Conventional physical therapy and Bowen technique are effective in treating the postural neck pain. Bowen technique is another form of soft tissue mobilization technique.**Aim:** To determine the effects of Bowen technique in postural neck pain among dentists.**Methodology:** A quasi study was conducted at Ibn e Siena Hospital Multan, 04 November 2020 to 03 April 2021. It consisted of 58 participants with postural neck pain, randomly allocated into experimental and control groups. The experimental group received Bowen technique and control group received conventional therapy. Assessments were taken at baseline and post treatment using study tools: Numeric pain rating scale (NPRS), Neck disability index (NDI) and goniometer.**Results:** The mean age of all the participants in experimental and control groups were 36.86± 8.91, 41.44±8.75 respectively. Pre treatment values of NPRS mean rank for experimental and control groups were 28.64, 30.36 respectively. Post treatment NPRS mean rank for experimental and control groups were 26.02 and 32.98 respectively with non-significant p value. Pre treatment values for NDI mean rank experimental and control groups 29.84 29.16. Post treatment NDI mean rank for experimental and control groups were 28.52 30.48 respectively with non-significant p value.**Conclusion:** Bowen technique is equally effective as conventional therapy for improving postural neck pain.**Keywords:** Bowen technique (BT), Conventional therapy (CT), Dentists, Neck Pain, Posture.

## INTRODUCTION

Neck discomfort, often known as back pain or neck pain, is a common sign of numerous unnatural postural patterns and medical disorders. The neck muscles can easily become sore from postures like hunching over a workbench. It can occasionally cause a stiff neck and lessen the range of motion in the neck. Etiological factors, such as poor posture, anxiety, depression, neck strain, and occupational and recreational activities, are frequently undervalued and complex<sup>1</sup>.

There are numerous consequences for neck discomfort, according to prevalence research conducted worldwide<sup>2</sup>. Forty three percent of people report having neck pain. Compared to males, women were more likely to experience chronic neck issues<sup>3</sup>.

Workers typically complain shoulder and neck ache while performing their regular duties and bad posture and occupational stress are the key contributors to this issue. Putative pathophysiological processes include the effects of work-related stress on the neck and shoulder. A mechanical etiology for osteoarthritis and cervical disc herniation in a small number of occupational groups has been identified. It is debatable if osteoarthritis has a mechanical etiology, though. By reducing circulation, a work position with raised arms may speed the degeneration of shoulder tendons because it puts static tension and the humerus in compression against the coracoacromial arch. Additionally, friction-induced tendinitis or shoulder tendinitis could be brought on by the repetitive arm movement's people endure at work. Three potential reasons of neck-shoulder muscular pain include mechanical failure, local ischemia, and disturbances in energy metabolism<sup>4</sup>.

Longissimus capitis, Levator scapulae, cervical multifidus, shoulder protectors, and elevators such the pectoralis minor, pectoralis major, and splenius capitis, upper trapezius, are among the muscles that are prone to tightness<sup>5</sup>. Due to the postural demands of their job, dentists frequently have neck pain, which has a substantial negative influence on dental practices. According to the study, dentists' poor body positions and lack of physical

Accepted on 28-12-2022

activity are the main ergonomic factors connected to the emergence of neck disorders. These neck issues are caused by stationary and unpleasant positions, constant repetitive motions of the upper limbs, synergistic effects with postural loads on the upper back and head, prolonged dental work, and psychological stress<sup>6</sup>.

The method known as Bowen's technique was created by Bowen. Bowen is a full-body method that emphasizes the body's soft connective tissue (fascia). Musculoskeletal and neurological conditions, such as recent sports injuries and chronic or pathological illnesses, can benefit from the Bowen technique. In this method, we employ a sequence of minute movements at divergent pressures at predetermined locations on the body. The Bowen technique is safe and easy to use, so anyone can utilize it. All of the body's organs and tissues are covered, divided and affected by the fascia, also known as soft tissue, which is a sort of coating of connective tissue. The Bowen technique, which may be applied to any musculoskeletal or neuromusculoskeletal disease, has benefits for everyone, from infants to the elderly. It is a thorough method that emphasizes the entire person rather than just the signs of a problem<sup>7</sup>.

Numerous interfacial mechanoreceptor types are stimulated by Bowen motions, which alter muscle tone and raise vagal tone. By moisturizing the fascia, Bowen's method of movement also promotes improved vascular and nerve supply<sup>8</sup>.

In order to assess the acute effects of Bowen therapy on pressure pain threshold and postural sway in healthy patients, a study was carried out. Because this study produced substantial outcomes for postural control and discomfort, its findings also conflicted with those of our current investigation<sup>9</sup>.

## METHODOLOGY

A quasi experimental study was conducted from 04 November 2020 to 03 April 2021 with the sample size of 58, calculated by Epi tool. The study was conducted in physiotherapy department of Ibn e Siena hospital Multan and research institute. Purposive sampling was used in this study, and the final digit of medical records was used to randomly divide the population into two groups, last even

Received on 18-07-2022

number for the experimental group and last odd number for the control group. Males and females between the ages of 25 and 50, who worked more than five hours per week and had neck pain lasting more than three months, were included in the study. Fracture, radiculopathy, and any type of shoulder or neck surgery were not included in the study.

The pre- and post-data were gathered using the NPRS and the neck disability index. Among the ten items on the neck disability index are pain, self-care, lifting, reading, headaches, concentration, work, driving, sleeping, and leisure. "No pain" to "worst agony," on a scale of 0 to 5, was the rating. Experimental group was applied 15 minutes of TENS and moist heat and followed by Bowen Therapy, top of the targeted muscle was touched by the therapist's thumb (upper trapezius, levator scapulae, tight pectoralis major, sternocleidomastoid, longissimus capitis, splenius capitis and cervical multifidus). Without putting pressure on the muscle, the skin was slowly pulled away from the spine. The muscle was then pressed by hooking the thumb into the muscle's lateral aspect. The thumb was then pressed medially, which caused the muscle to respond immediately. Control group was applied 15 minutes of TENS and moist heat and followed by Deep, transverse friction massage followed by cervical muscles stretching, three time and therapist used ulnar border of both palms to release the fascia.

## RESULTS

Table 2: Mann-Whitney test between group analyses

Variables		Experimental group	Control group	Median IQR	P-value
		Mean Rank	Mean Rank		
NPRS	Pre treatment	28.64	30.36	4(2)	0.683
	Post treatment	26.02	32.98	2(2)	0.091
NDI	Pre treatment	29.84	29.16	13(7)	0.876
	Post treatment	28.52	30.48	7(4)	0.656

## DISCUSSION

The goal of this study was to carefully examine how the Bowen treatment affected dentists' postural neck pain. According to the results of the current study, Bowen technique is just as good as traditional therapy in lowering pain threshold, increasing the value of the craniovertebral angle, enhancing functionality, and increasing cervical range of motion. This study found no statistically significant ( $p > 0.05$ ) reduction in pain within the experimental and control groups.

A randomised control trial RCT was carried out to see whether the Bowen treatment provided multisite chronic pain sufferers with short-term pain alleviation results showed that compared to the control group, the Bowen technique group had a significantly decreased pain score ( $p < 0.05$ ) one week after the intervention. However, at the final follow-up, their findings, which were in agreement with the results of our current investigation, were inconsequential. This showed that the Bowen therapy provided only short term reduction in pain<sup>10</sup>.

Another study examined at how well the Bowen treatment worked in conjunction with traditional physiotherapy to reduce pain and improve function in patients with acute trapezitis. The results of this study suggested that all of the subjects' cervical rotation, neck disability index (NDI), visual analogue scale (VAS), and Bowen technique scores improved statistically significantly ( $p < 0.05$ )<sup>11</sup>.

Another randomized control trial was carried out to examine the impact of a therapeutic exercise regimen on pain, disability, posture, and health status in dentists with chronic neck pain with regard to the postural concerns in dentists. In the therapy group, there were statistically significant improvements ( $p < 0.05$ ). Values for pain, disability, posture, and health status were significantly higher in the group receiving therapeutic treatment. The findings of the present study, which also compared the effectiveness of conventional therapy and the Bowen technique in treating postural

Total 58 participants, out of which 29 were in experimental group and 29 in the control group. Among the total participants 9(31%) were males and 20(69%) were females in experimental group, 15(51.7%) were male and 14(48.3%) were female in control group. The mean age of participants was  $36.86 \pm 8.91$ ,  $41.44 \pm 8.75$  years in both groups respectively. According to the non-parametric test (Mann Whitney test), in table. 2 pretreatment values for NPRS experimental group mean Rank was 28.64 and control group mean Rank was 30.36. Post treatment NPRS for experimental group mean Rank was 26.02 and control group mean Rank was 32.98 with non-significant P value. Pre treatment values for NDI experimental group mean Rank was 29.84 and control group mean Rank was 29.16. Post treatment NDI for experimental group mean Rank was 28.52 and control group mean Rank was 30.48 with non-significant P value.

Wilcoxon sign rank test for within-group analysis was performed for the experimental and control groups for NPRS and NDI, null hypothesis was rejected with significant p value.

Table 1: Demographic data

	Experimental group	Control group
N	29	29
Age (years)	$36.86 \pm 8.91$	$41.44 \pm 8.75$
Male	9 (31%)	15(51.7%)
Female	20(69%)	14(48.3%)

Mann-Whitney Test between group analyses,  
Non-Parametric Test

neck discomfort in dentists, were in excellent accord with those of the current study<sup>12</sup>.

To research the impact of therapeutic ultrasound and soft tissue mobilization on neck and arm discomfort. The NDI and shoulder abduction ROM with neutral wrists did not differ across groups, according to the study's findings. This study is comparable to our own because the findings of the between-group analysis revealed that the neck disability index did not differ significantly ( $p > 0.05$ ) between the experimental and control groups (NDI)<sup>13</sup>.

Another study looked at the impact of postural improvement and neural mobilization on pain and the cranio-vertebral angle. This study's findings ran counter to those of our own. The results showed that the experimental group's craniovertebral angle significantly improved. The results of the current investigation indicated that neither group's craniovertebral angle score considerably improved<sup>14</sup>.

## CONCLUSION

The Bowen treatment has found to be just as effective as traditional therapy for decreasing neck impairment brought on by postural neck discomfort among dentists.

**Recommendation:** This study suggests an alternative method of treatment for cervical spine issues in addition to stretching and mobilization. Therefore, a bigger sample size is required to investigate the study's efficacy.

**Conflicts of interest:** Previous researches have only focused on cervical spine stretching and strengthening activities; this study will assist with additional cervical spine treatments.

**Author's Contribution:** Nida Aslam: Conception and design, revising it critically for intellectual content, final approval, Yasir kazmi: Acquisition of data, interpretation of data, final approval, Muhammad Usman Khalid: Acquisition of data, analysis of data, drafting the article, final approval, Muhammad Hassan: analysis

and corrections, Ayesha Maqbool & Haroon Mansha: Conceived and designed the analysis. Proof reading of the manuscript.

**Funding:** No Funding

**Ethical Approval:** Ethical approval was done from Faculty of Rehabilitation & Allied Health Sciences with reference number Riphah/RCRS/REC/00857

## REFERENCES

1. Theodore N. Degenerative cervical spondylosis. *New England Journal of Medicine*. 2020;383(2):159-68.
2. Rahme D, Lahoud N, Sacre H, Akel M, Hallit S, Salameh P. Work fatigue among Lebanese community pharmacists: prevalence and correlates. *Pharmacy Practice (Granada)*. 2020;18(2).
3. Dighiri YH, Akkur MA, Alharbi SA, Madkhali NA, Matabi KI, Mahfouz MS. Prevalence and associated factors of neck, shoulder, and low-back pains among medical students at Jazan University, Saudi Arabia: A cross-sectional study. *Journal of family medicine and primary care*. 2019;8(12):3826.
4. Meisha DE, Alsharqawi NS, Samarah AA, Al-Ghamdi MY. Prevalence of work-related musculoskeletal disorders and ergonomic practice among dentists in Jeddah, Saudi Arabia. *Clinical, Cosmetic and Investigational Dentistry*. 2019;11:171.
5. De Pauw R, Coppieters I, Palmans T, Danneels L, Meeus M, Cagnie B. Motor impairment in patients with chronic neck pain: does the traumatic event play a significant role? A case-control study. *The Spine Journal*. 2018;18(8):1406-16.
6. Shams-Hosseini NS, Vahdati T, Mohammadzadeh Z, Yeganeh A, Davoodi S. Prevalence of musculoskeletal disorders among dentists in Iran: A systematic review. *Materia socio-medica*. 2017;29(4):257.
7. Kopczyńska E, Malak R, Kostiukow A, Samborski W. Bowen Technique for patients with low back pain. *World Scientific News*. 2018;93:68-81.
8. Wilks J. The Bowen technique-mechanisms for action. *Journal of the Australian Traditional-Medicine Society*. 2013;19(1):33-5.
9. Félix GJ, Black L, Rodrigues M, Silva AG. The acute effect of Bowen therapy on pressure pain thresholds and postural sway in healthy subjects. *Journal of bodywork and movement therapies*. 2017;21(4):804-9.
10. Lee K, Lewis GN. Short term relief of multisite chronic pain with Bowen Therapy: A double-blind, randomized controlled trial. *Journal of Bodywork and Movement Therapies*. 2020;24(4):271-9.
11. Nitsure P, Kothari N. THE EFFECTIVENESS OF BOWEN TECHNIQUE AS AN ADJUNCT TO CONVENTIONAL PHYSIOTHERAPY ON PAIN AND FUNCTIONAL OUTCOMES IN SUBJECT WITH ACUTE TRAPEZITIS-A PILOT STUDY. *Romanian Journal of Physical Therapy/Revista Romana de Kinetoterapie*. 2015;21(36).
12. Letafatkar A, Rabiei P, Alamooti G, Bertozzi L, Farivar N, Afshari M. Effect of therapeutic exercise routine on pain, disability, posture, and health status in dentists with chronic neck pain: a randomized controlled trial. *International archives of occupational and environmental health*. 2020;93(3):281-90.
13. Costello M, Puenteadura ELJ, Cleland J, Ciccone CD. The immediate effects of soft tissue mobilization versus therapeutic ultrasound for patients with neck and arm pain with evidence of neural mechanosensitivity: a randomized clinical trial. *Journal of Manual & Manipulative Therapy*. 2016;24(3):128-40.
14. Prakash J, Sindhu M. cranio-vertebral angle in cervicogenic headache—a comparative st. **Key Words**.