DOI: https://doi.org/10.54393/pbmj.v5i6.505

PAKISTAN BIOMEDICAL JOURNAL

https://www.pakistanbmj.com/journal/index.php/pbmj/index

Volume 5, Issue 6 (June 2022)

Original Article

Comparative Effects of Therapeutic Massage and Acupressure on Neck Pain

Saba Mengal[1], Aamir Gul Memon[2*], Fatima Chaudhary[3], Saleh Shah[4], Muhammad Faheem Afzal[5], Muhammad sanaullah[2], Sumaira Nawaz[6], Falak Abdul Latif[7]

[1]Physical Therapy Department, Isra University Hyderabad, Pakistan
[2]Physical Therapy Department, Riphah International University, Lahore, Pakistan
[3]Institute of health and management sciences IHMS, Islamabad, Pakistan
[4]Superior University, Lahore, Pakistan
[5]PSRD, College of Rehabilitation Sciences, Lahore, Pakistan
[6]Rashid medical hospital Dubai
[7]Department of Physical Therapy, Suleman Roshan Medical College, Sindh, Pakistan

ARTICLE INFO

Key Words:

Acupressure, Disability, Neck pain, Rehabilitation, Therapeutic massage

How to Cite:

Mengal, S., Memon, A. G., Chaudhary, F., Shah, S., Afzal, M. F., Sanaullah, M., Nawaz, S., & Abdul Latif, F. . (2022). Comparative Effects of Therapeutic Massage and Acupressure on Neck Pain: Therapeutic Massage and Acupressure in Neck Pain. Pakistan BioMedical Journal, 5(6). https://doi.org/10.54393/pbmj.v5i6.505

***Corresponding Author:**

Aamir Gul Memon
Physical Therapy Department, Riphah International University, Lahore, Pakistan
aamir_mmn642@yahoo.com

Received Date: 3rd June, 2022
Acceptance Date: 25th June, 2022
Published Date: 30th June, 2022

ABSTRACT

Depending on the cause, neck pain can persist anywhere from a few days to several years; Osteoarthritis, spinal stenosis, ruptured disc, pinched nerves, emotional and physical stress, strain, bad posture, tumor, and other disorders are among the most common causes acupressure on local and distal acupuncture sites may provide drowsiness and relaxation, which may help to relieve chronic neck discomfort. **Objective:** To compare the effects of therapeutic massage and acupressure on neck pain. **Methods:** ISRA University Hospital Karachi conducted a randomized clinical trial. A total of n=30 individuals were between the ages of 20 and 35, with neck discomfort ranging from 3-6 on the VAS scale. The n=30 participants were separated into two groups: therapeutic massage (n=14) and acupressure (n=15). The data was analyzed using the SPSS version 22.0. **Results:** Mean age of study participants was 24.34± 4.3 years. A total of n=12 were female, and the remaining n=18 were male. The analysis showed that pain and neck disability significantly improved in both groups ($p<0.05$). When compared in both groups, the intensity of pain was not significantly different in both groups, but neck disability was significantly improved in the acupressure group as compared to the massage group after six weeks of intervention. **Conclusion:** The study concluded that both techniques benefit neck pain and disability and found significant results. But results show that acupressure was found to be more beneficial and significant than the therapeutic massage.

INTRODUCTION

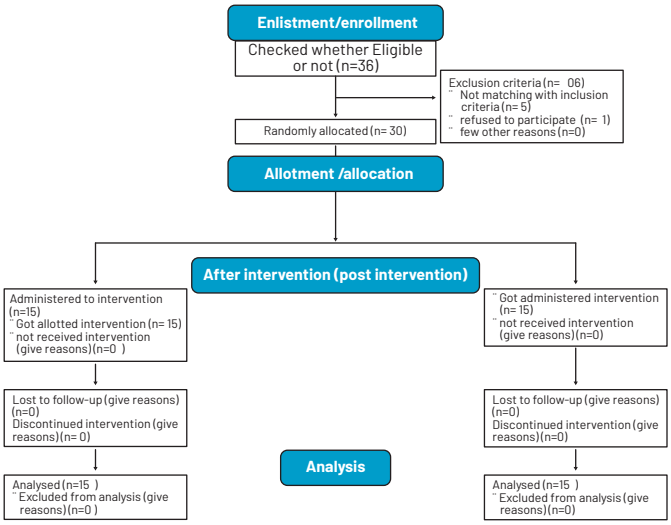
Neck discomfort is a debilitating condition that goes through remissions and relapses and causes considerable movement restrictions in late-twentieth-century computer users [1]. The majority of cases follow an episodic pattern [2]. Trapizus myalgia (38%), tension neck syndrome (17%), and cervicalgia are the most common neck pain cases base on clinical symptoms and indicators (17%). Myofascial pain syndrome (MPS) of the neck and shoulder [3] and the formation of myofascial trigger points (MTrPs) on the trapezius, on the other hand, have been proposed as pain-causing mechanism [4]. Trauma, infections or inflammatory illnesses, rheumatic disorders, and congenital disease can all cause neck pain; however, in the majority of cases, no specific cause can be found, and the condition is characterized as nonspecific neck pain [5]. According to the Global Burden of Disease (GBD), musculoskeletal disease is the second greatest cause of global disability, with 43 percent of people experiencing it

DOI: https://doi.org/10.54393/pbmj.v5i6.505

in 2017[5]. Neck pain is more common in women (48%) than in men (38%) in the general population. Working women had higher neck pain than older women. Chronic neck discomfort, which is defined as pain that lasts longer than six months, was shown to be more common in women (22% vs. 14%) than in men (14%) [6]. When it comes to work-related musculoskeletal disorders, work-related neck pain (WRNP) is more common among computer users, according to the research (WRMSDs). Nigeria (33.9%), Turkey (21.6%), Estonia (51%), Sweden (50%), Finland (20.7 %), Iran (54.9 %), India (45 %), and Pakistan (45 %) attest to this truth, according to the literature (16.8 %) [7]. Maintaining proper posture is still essential for avoiding neck pain. Several interventions have been proposed to enhance computer users' posture through self-efficacy, such as internet training 16 and real-time visual feedback [8]. The cost-effectiveness planes revealed that 98% of the bootstrapped ratio for pain intensity,85% for perceived recovery, and 87% for QALY were located in the southeast quadrant, demonstrating that manual treatment dominates physiotherapy. In a patient with mechanical neck pain, an impairment-based MTE resulted in clinically and statistically significant short and long-term improvements in pain disability and patient-perceived recovery when compared to a programme consisting of advice, a mobility exercise, and sub-therapeutic ultrasound [9]. The recommended strengthening exercise may have increased the extensibility and flexibility of the soft tissues, resulting in less pain and more range of motion [10]. Major purpose of this study is to see how therapeutic massage and acupressure can help with neck pain. the impact of this study on the community will be to provide novel treatment techniques even yet, there isn't much research comparing massage and acupressure.

METHODS

After receiving consent from the Department of Physical Therapy, ISRA University Karachi Campus, a randomized clinical trial investigation was done at the Physiotherapy OPD, ISRA University Hospital, from February to July 2018. Participants in the study gave their written informed consent, and their personal information was kept private in accordance with the Helsinki Declaration. The no probability convenience sampling technique was used in this study. The sample size was calculated by Epi-tool [11] and n=30 participants were divided into two groups (Group A: Massage Therapy and Group B: Acupressure) via a lottery method. The study participant was the participant between 20=35 years having neck pain between 3-6 intensity of VAS were included in the study. Radiating neck pain or cases of cervical spondylosis, systemic and metabolic diseases fracture the cervical spine, participants with a whiplash injury, and cervical spine surgery were excluded from the study. The VAS was for pain assessment; the neck disability index was used to determine functional limitations due to neck pain. The assessment was taken at the baseline after three weeks of intervention. The therapeutic massage group received three weeks of treatment sessions of friction massage with 10 minutes of the hot pack before the session. After selecting and examining the trapezius muscle, gently with the sweeping thumb and palm, circular friction is performed in small circles, moving deeper and deeper into the tissue to the maximum depth and then released. Repeat this action three times on the same spot [12]. Acupressure groups received three weeks of treatment sessions of acupressure with 10 minutes given three times a week, three sets of the intensity of acupressure applied on the trapezius. Through right thumb in a rotatory fashion at 20-25 cycles per minute for 30 seconds. The subjects were observed for a further 10 minutes [13].



RESULTS

The mean age of 30 participants was 34.80± 4.746. A total of n=16 (53.33%) of participants were male, and 14 (46.67%) were female, as shown in Table 1.

Variables	Construct	Frequency	Percentage %
Marital status	Married	19	63.33%
	Unmarried	11	36.67%
Occupation	Housewife	6	20%
	Driver	2	6.67%
	Clerk	5	16.67%
	Computer Operator	6	20%
	Nurse	6	20%
	Teacher	1	3.33%
	Tailor	4	13.33%

Table 1: Demographic data of the study participants

In Group A of pretreatment, 15 participants had moderate

DOI: https://doi.org/10.54393/pbmj.v5i6.505

disability, but 7 had a moderate disability after the treatment, and 8 had a mild type of disability. In Group B of pretreatment, 15 participants had moderate disability, but 5 had a moderate disability after the treatment, and 10 had a mild type of disability. Group-A, the mean difference of pain intensity within groups was 1.77± 0.53, and neck disability was 7.1± 0.8. Group-B's mean pain intensity difference within groups was 2.34± 0, and neck disability was 9.19± 0.19. Pre and post-treatment of pain intensity between groups were 0.34± 0.2 and 0.23± 0.11. Pre and post-treatment of neck disability were 0.01± 0.39 and 2.1± 0.22. The analysis showed that pain intensity and neck disability significantly improved ($p<0.05$) after 3 weeks of intervention in therapeutic massage and acupressure groups. When comparing both groups, improvement in the pain intensity was not statistically ($p\geq0.05$) significant, while nick disability significantly improved ($p<0.05$) in the acupressure group as compared to the massage group after three weeks of intervention, Table 2.

Variables	Group A	Group-B	Mean Different	p-value
Pre Pain Intensity	5.00± 0.66	5.34± 0.2	0.34± 0.2	0.059
Post Pain Intensity	3.23± 0.130	3.00± 0.02	0.23± 0.11	0.079
Mean different	1.77± 0.53	2.34± 0.98		
p-value	0.04*	0.001**		
Pre Neck Disability	25.90± 3.80	25.89± 3.41	0.01± 0.39	0.764
Post Neck Disability	18.80± 3.00	16.70± 3.22	2.1± 0.22	0.04*
Mean Different	7.1± 0.8	9.19± 0.19		
p-value	0.0054**	0.00002***		

Level of significance: $p<0.05$*, $p<0.01$**, $p<0.001$***
<0.05 p-value consider significant result.
Table 2: With-in and between-group analysis

DISCUSSION

This study will help to improve patient outcomes and neck pain and ultimately reduce the severity of mechanical neck pain symptoms and expertise in physical intervention/ therapies. This study will also help promote these therapeutic massages versus acupressure and their benefits in improving the condition of patients who suffer from Neck Pain. A study was conducted to explore the usefulness and comparative effectiveness of mobilization and muscle energy techniques to improve range of motion and physical functioning among patients with mechanical neck pain. The study concluded that both techniques are more effective in treating mechanical neck pain [14]. Study examined the efficacy of deep transverse friction massage and myofascial release among patients with the trapezius. The finding showed a significant improvement in pain and range of motion within groups. In contrast, the two intervention groups found no significant difference in pain and range of motion. The study concluded that the myofascial trigger release technique is more effective for patients with the trapezius [15]. A study concluded that acupressure might be effective on the neck. However, it is not conclusive in line with the low evidence level and low methodological quality of included studies [16]. Another study looked into the effects of acupuncture on adults suffering from neck pain. Moderate quality data also suggests that acupuncture is more beneficial than inactive treatment for pain relief at short term follow-up, according to a study [17]. In chronic neck pain patients, acupuncture outperforms Sham in terms of decreasing motion-related pain and range of motion after just one treatment session. Acupuncture at far sites increases ROM more than D. D.N. is ineffective for motion-related discomfort [18]. Massage appears to be safe and may have clinical benefits for treating persistent neck pain, at least in the short term, according to an old study [19, 20]. Therapeutic massage was found to be useful for neck discomfort in this study. Acupressure, on the other hand, is more effective than therapeutic massage. Because the sample size was limited and the treatment period was short, there was no evidence of long-term improvement in functional impairment. Data should be collected based on gender-based disparities in pain and functional impairments in future investigations. To evaluate the long-term impact on functional impairment, the treatment time should be increased.

CONCLUSIONS

This study concluded that both techniques benefit neck pain and disability and found significant results. But in, in between-group results show that acupressure was found to be more beneficial and significant than the therapeutic massage.

REFERENCES

[1] Park DJ, Park SY. Long-term effects of diagonal active stretching versus static stretching for cervical neuromuscular dysfunction, disability and pain: An 8 weeks' follow-up study. Journal of back and musculoskeletal rehabilitation. 2019 Jan ; 32(3): 403-10. doi: 10.3233/BMR-171107

[2] Xie Y, Szeto G, Dai J. Prevalence and risk factors associated with musculoskeletal complaints among users of mobile handheld devices: A systematic review. Applied ergonomics. 2017 Mar; 59:132-42. doi.org/10.1016/j.apergo.2016.08.020

[3] Gaudez C, Cail F. Effects of mouse slant and desktop position on muscular and postural stresses, subject preference and performance in women aged 18–40 years. Ergonomics. 2016 Nov; 59(11):1473 86. doi.org/10.1080/00140139.2016.1148783

[4] Gerber LH, Shah J, Rosenberger W, Armstrong K, Turo D, Otto P, et al. Dry needling alters trigger points in the upper trapezius muscle and reduces pain in

DOI: https://doi.org/10.54393/pbmj.v5i6.505

subjects with chronic myofascial pain. PM&R. 2015 Jul; 7(7):711-8.doi.org/10.1016/j.pmrj.2015.01.020

[5] Rostron S. The Effects of Massage Therapy on a Patient with Migraines and Cervical Spondylosis: A Case Report. International Journal of Therapy Massage and Bodywork. 2021; 14(3):15-21. doi:10.3822/ijtmb. v14i3.629

[6] Bakken AG, Eklund A, Warnqvist A, O'Neill S, Axén I. The effect of two weeks of spinal manipulative therapy and home stretching exercises on pain and disability in patients with persistent or recurrent neck pain; a randomized controlled trial. BMC Musculoskeletal Disorders. 2021 Oct; 22(1):903. doi: 10.1186/s12891-021-04772-x.

[7] Hasanat MR, Ali SS, Rasheed A, Khan M. Frequency and Associated Risk Factors for Neck Pain Among Software Engineers in Karachi, Pakistan. JPMA: The Journal of the Pakistan Medical Association. 2017 Jul; 67(7):1009-12.

[8] Shirvani H, Salesi M, Samadi M, Shamsoddini A. Design and Development of a 3-Axis Accelerometer Biofeedback System for Real-Time Correction of Neck Posture for Long-Time Computer Users. Journal of Medical Signals and Sensors. 2021; 11(4):269-273. doi: 10.4103/jmss.JMSS_56_20

[9] Fritz JM, Kim M, Magel JS, Asche CV. Cost-Effectiveness of Primary Care Management with or Without Early Physical Therapy for Acute Low Back Pain: Economic Evaluation of a Randomized Clinical Trial. Spine (Phila Pa 1976). 2017 Mar; 42(5):285-290. doi: 10.1097/BRS.0000000000001729.

[10] Ganesh GS, Mohanty P, Pattnaik M, Mishra C. Effectiveness of mobilization therapy and exercises in mechanical neck pain. Physiotherpy Theory and Practice. 2015 Feb; 31(2):99-106. doi: 10.3109/09593985.2014. 963904.

[11] Ho K, Spence J, Murphy MF. Review of pain-measurement tools. Annals of emergency medicine. 1996; 27:427–432.

[12] Coulter ID, Crawford C, Vernon H, Hurwitz EL, Khorsan R, Booth MS, et al. Manipulation and mobilization for treating chronic nonspecific neck pain: a systematic review and meta-analysis for an appropriateness panel. Pain physician. 2019 Mar; 22(2): E55.

[13] Kay TM, Gross A, Goldsmith CH, Rutherford S, Voth S, Hoving JL, et al. Exercises for mechanical neck disorders. Cochrane Database Systematic Review. 2012Aug;(8):CD004250.doi:10.1002/14651858.CD004250.pub4.

[14] Anwar N, Khalid K, Rana AA, Hayat MK, Idrees MQ, Zafar S. Efficacy of Kalenborn grade III mobilization, muscles energy techniques and their combination to improves range of motion and functional ability in adults with mechanical neck pain; International Journal of Physiotherapy. 2016; 3(4): 482-486. doi.org/10.15621/ijphy/2016/v3i4/111059

[15] Mane P, Pawar A, Warude T. Effect of Myofascial Release and Deep Transverse Friction Massage as an Adjunct to Conventional Physiotherapy in Case Unilateral Upper Trapezitis - Comparative Study; International Journal of Science and Research; 2017: 6(3)644-647. doi: 10.21275/SR21330105408

[16] Kwon CY, Lee B. Clinical effects of acupressure on neck pain syndrome (nakchim): a systematic review. Integrative Medicine Research.2018 Sep; 7(3):219-230. doi: 10.1016/j.imr.2018.01.002.

[17] Trinh K, Graham N, Irnich D, Cameron ID, Forget M. Acupuncture for neck disorders. Cochrane Database Systematic Review. 2016 May; (5):CD004870. doi: 10.1002/14651858.CD004870.pub4.

[18] Irnich D, Behrens N, Gleditsch JM, Stör W, Schreiber MA, Schöps P, et al. Immediate effects of dry needling and acupuncture at distant points in chronic neck pain: results of a randomized, double-blind, sham-controlled crossover trial. Pain. 2002 Sep; 99(1-2):83-9. doi: 10.1016/s0304-3959(02)00062-3.

[19] Sherman KJ, Cherkin DC, Hawkes RJ, Miglioretti DL, Deyo RA. Randomized trial of therapeutic massage for chronic neck pain. The Clinical Journal of Pain. 2009;25(3):233238.doi:10.1097/AJP.0b013e31818b7912

[20] Bronfort G, Haas M, Evans R, Leininger B, Triano J. Effectiveness of manual therapies: the UK evidence report. Chiropractic & osteopathy. 2010 Dec; 18(1):1-33.