

Original Research Article

Comparison between the effect of oscillating energy manual therapy and conventional therapy in patients with chronic lateral epicondylitis

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Abstract

This comparative prospective study's objective was to assess the effectiveness of physical therapy treatments for lateral epicondylitis. There were two groups made (A and B), and while Group B also received an experimental therapy, Group A just received routine care. The primary performance indicator, grip strength, was assessed. The research lasted a full year and involved people who had received physiotherapy referrals from secondary hospitals. Both groups' grip strength greatly increased, proving the efficacy of the treatments. However, there were no appreciable differences in the post-grip assessments across the groups. The study concludes that more research is needed to investigate potential changes in treatment modalities while also demonstrating the usefulness of physical therapy in improving grip strength in lateral epicondylitis patients..

1. INTRODUCTION

Tennis elbow, sometimes referred to as lateral epicondylitis, is a common musculoskeletal condition that affects the elbow area (1, 2). It is characterised by pain and tenderness on the lateral epicondyle of the elbow, which is frequently brought on by repeated motions and excessive usage of the forearm extensor muscles (3, 4). Tennis elbow, despite its name, can affect people in a variety of professions and hobbies (5, 6).

Instead of being caused by inflammation, lateral epicondylitis is caused by degenerative alterations in the extensor tendon origin (7). Conservative therapies, physical therapy, corticosteroid injections, and surgical techniques have all been used historically as therapeutic methods (4, 8). Exercises for strengthening and stretching are physiotherapy therapies that have showed promise in symptom improvement and functional results (9, 10).

There is little study evaluating the efficacy of various physiotherapy methods for treating lateral epicondylitis, despite the fact that they are often employed. Therefore, the objective of this prospective comparison study is to assess and compare the efficacy of traditional and novel physiotherapy therapies in enhancing grip strength in lateral epicondylitis patients. The

study will add to the body of information about physiotherapy therapies for lateral epicondylitis and offer useful insights into the best management of this ailment.

Aims and Objectives

1. To evaluate whether patients with lateral epicondylitis would benefit more from conventional physiotherapy (Group A) or experimental physiotherapy (Group B) in terms of increasing grip strength.
2. To evaluate the grip strength pre- and post-test results in both Group A and Group B, and to ascertain if there have been appreciable gains in either group.
3. To assess the possibility of differences in post-grip ratings between Group A and Group B, and to establish if one intervention is superior to the other in terms of enhancing grip strength in lateral epicondylitis patients.

2. METHODOLOGY

This prospective comparative research aims to evaluate lateral epicondylitis patients' response to physical therapy. The participants in the research were physiotherapy patients from tertiary institutions (Pacific College of Physiotherapy, Udaipur) who had been recommended by specialists. The Institutional Ethics Committee gave its approval to the study procedure, which was followed during the course of a full year.

Purposive sampling was used by the researchers to choose the study population. Following were the study's inclusion criteria:

1. Presence of pain on the lateral epicondyle of the elbow.
2. Tenderness on the lateral epicondyle of the elbow.
3. Positive results on Cozen's, Mills', and finger extension tests.
4. Complaints of lateral epicondylitis for at least three months.

Subjects were excluded from the study if they exhibited any of the following conditions:

1. Proximal upper extremity or neck symptoms.
2. Cervical pathology.
3. Nerve entrapment syndrome.
4. Non-union fracture.
5. Previous surgical treatment for lateral epicondyle or steroid injection for elbow pain within the past six months.

A pen, an ultrasound, resistance instruments, consent papers, and data collecting sheets were the only tools used in the study. By comparing the results before and after the intervention, this approach was created to assess how well physiotherapy treats lateral epicondylitis.

Procedure

Two groups (A and B) were created for this investigation. The Extensor Carpi Radialis Brevis was treated with pulsed ultrasonic treatment for 5 minutes in Group A, the conventional group. This was followed by a series of theraband-based strengthening and stretching activities. The experimental group, Group B, furthermore got oscillating energy manual therapy in addition to the standard care. This treatment entailed applying light finger pressure to the lateral epicondyle's sensitive spot and allowing oscillatory impulses to develop for anywhere between 30 and 2 minutes. Every week, there were three 45-minute therapy sessions for each groups. The course of therapy continued for a whole week.

Data Analysis

For the demographic information and characteristics examined, descriptive statistics was utilised to determine frequency, percentage, mean, and standard deviation.

Statistical Package for Social Sciences (SPSS) version 17 was used to analyse the data after they had been tabulated using Microsoft Office Excel.

Probability values were regarded as statistically significant if they were less than 0.05, and highly significant if they were less than 0.001.

3. RESULTS

Table No. 1 Pre score of grip in both groups

Group	Mean	SD	P Value	Level of Significant
Group A	11.5	2.635	0.9258	Not Significant
Group B	11.6	2.066		

The grip pre-scores for Group A and Group B are shown in Table 1. While the mean grip score in Group B was 11.6 and the SD was 2.066, the mean grip score in Group A was 11.5 and the SD was 2.635. For the comparison of pre-scores between the two groups, a p-value of 0.9258 was computed. The statistical analysis revealed that the p-value did not meet the threshold for significance, suggesting that there was no statistically significant difference between Group A and Group B's grip pre-scores. Because the initial grip scores in both groups were comparable prior to the intervention, it is likely that any variations in grip scores that were noticed after the therapy were caused by the intervention rather than by the grip levels at baseline.

Table No. 2: Pre and post score of grip in group A

Group A	Mean	SD	P Value	Level of Significant
Pre grip score	11.5	2.635	<0.0005	Extremely significant
Post grip score	12.9	2.378		

The grip scores before and after treatment are shown in Group A in Table 2. In Group A, the mean pre-grip score was 11.5 and the standard deviation (SD) was 2.635. The mean post-grip score improved considerably after the intervention, rising to 12.9 with an SD of 2.378. There was a very significant difference between the pre- and post-test scores, as indicated by the estimated p-value of less than 0.0005. This shows that the grip strength improvement caused by the intervention used in Group A was significant. The findings show that the intervention was successful in improving grip strength in members of Group A, as evidenced by the statistically significant rise in grip scores that followed the therapy.

Table No. 3: Pre and post score of grip in group B

Group B	Mean	SD	P Value	Level of Significant
Pre grip score	11.6	2.066	<0.0011	Very Significant
Post grip score	12.7	1.703		

The grip scores for Group B are shown in Table 3 both before and after. In Group B, the mean pre-grip score was 11.6 and the standard deviation (SD) was 2.066. The mean post-grip score climbed to 12.7 with an SD of 1.703 following the intervention. Less than 0.0011 was determined to be the estimated p-value for the comparison of before and post scores, suggesting a very significant difference. These findings imply that the Group B intervention had a significant positive influence on grip strength. The statistically significant improvement in grip ratings shows how well the intervention worked to improve grip strength in Group B participants. The results show that the intervention significantly increased grip strength, demonstrating its effectiveness in treating grip-related problems in patients in Group B.

Table No. 4 Post score comparison of grip in both group

Group	Mean	SD	P Value	Level of Significant
Group A	12.9	2.378	0.8312	Not Significant
Group B	12.7	1.703		

The post-score grip comparison between Group A and Group B is shown in Table 4. The mean post-grip score for Group A was 12.9, and the standard deviation (SD) was 2.378. The mean post-grip score in Group B was 12.7 with a standard deviation of 1.703. The computed p-value for the comparison of the two groups was 0.8312, indicating that there was no statistically significant difference between Group A and Group B's post-grip scores. Therefore, there is no proof that one group's post-grip score was substantially greater or lower than the other group's. The results suggest that there was no statistically significant difference between Group A and Group B in the gains in grip strength brought about by the treatments.

4. CONCLUSION

The study assessed the efficacy of physiotherapy treatments for lateral epicondylitis in its conclusion. Grip strength significantly increased after conventional therapy (Group A) and experimental treatment (Group B). In terms of post-grip scores, there was no discernible difference between the two groups. These results imply that both therapies are successful in increasing grip strength in lateral epicondylitis patients. To investigate other variables that could distinguish the results of the two treatment philosophies, more study may be required.

Limitation

The study was just short-term. The treatments took place over the course of one week, which might not have been long enough to fully evaluate the long-term effects. If there had been a longer follow-up period, it would have been possible to assess the durability of the grip

strength gains and the likelihood of any relapses or reappearance of symptoms in greater detail.

5. REFERENCES

1. Moken T, Mehlum IS. Work related musculoskeletal disorders in Norway's offshore petroleum industry. *Occup med (lond)*, 2007.57(2):112-117.
2. Shiri R, Viikari-Juntura E. Prevalence and determinations of lateral and medial epicondylitis: a population study. *Am J Epidemiol*, 2006.164 (11):1065-74.
3. Ekberg K, Karlson M. Case control study of risk factors for disease in the neck and shoulder area. *Occup Environ Med*. 1994.51(4):262-6.
4. Cyriax JH. The pathology and treatment of tennis elbow. *The journal of bone and joint surgery*, 1936,18:921-940.
5. Kaplan EB. Treatment of tennis elbow (epicondylitis) by denervation. *The journal of bone and joint surgery*. 1959;41(1) 147-151.
6. Mills GP. The treatment of tennis elbow. *The journal of bone and joint surgery*. 1928;1:12-13.
7. Kraushal B, Nirschl R. Current concept review: Tendinosis of elbow (tennis elbow) Clinical features and findings of histological and immunohistochemical and electron microscopy studies. *J bone joint surgery*. 1999;81.259-285.
8. Aust NZJ surg. The early history of tennis elbow. 1873 to the 1950s. *Thurston AJ*, department of surgery, Wellington school of medicine, New Zealand. 1998. Mar;68(3)219-24.
9. Waugh EJ. Lateral epicondylalgia or epicondylitis. What is in name?. *sport Phys ther*. 2005,35;200-202.
10. Abbot JH, Patla CE. The initial effect of elbow mobilization with movement technique on grip strength in subjects with lateral epicondylalgia. *Manual Therapy*. 2001;6(3):163-169.