ASSESSMENT OF DISABILITY AND QUALITY OF LIFE INLATERAL EPICONDYLITIS

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ABSTRACT

Background: There is a direct correlation between overuse and forearm extensor tendon injuries. Tennis elbow may be brought on by a variety of different things. Only people above the age of 40 are more likely to suffer from this illness. There have been very few high-quality clinical studies despite the high frequency of lateral epicondylitis and the large variety of therapeutic options.

Materials & Methods: A questioner was created by combining the arm, shoulder, and hand (dash)

questioner's disabilities with the quality of life scale (QOL). Patients with Lateral Epicondylitis and healthy people with no symptoms were given a Google Forms form to fill out. To keep track of the data, Excel and MS Word were employed.

Results: According to the findings, there is a substantial difference in impairment and quality of life between the two groups. In the correlation of disability vs. quality of life, the correlation value for Group 1 is -0.51, indicating a negative correlation, while the correlation value for Group 2 is -.337, indicating a negative connection.

Conclusion: As a result, this research indicates that there is a difference between normal people's impairment and quality of life and those diagnosed with later epicondylitis. People with Lateral Epicondylitis have a high level of disability, which has a negative association with DASH vs QOL, implying that as the level of disability rises, so does the quality of life.

INTRODUCTION

Major identified tennis elbow as a condition that causes lateral elbow discomfort in tennis players in 1883.(1). Approximately 1% to 3% of people suffer from lateral epicondylitis each year. In 1873, Runge was the first to identify the disease, and in 1883, Major coined the term "lawn-tennis arm" to refer to the condition's connection to the sport. (1) Despite the fact that the disease is most frequently work-related and that many individuals with it do not play tennis, this term has become synonymous with all lateral elbow discomfort over time.(2). However, it is expected that 10% to 50% of individuals who play tennis on a regular basis would acquire the illness at some time throughout their lives. During backhand tennis swings, eccentric contractions of the extensor carpi radialisbrevis (ECRB) muscle are the most frequent cause of repeated microtrauma, which leads to tendon tears and lateral epicondylitis, according to a new biomechanics research. Other potential causes of tennis elbow, also known as lateral epicondylitis, include trauma to the lateral area of the elbow, relative hypovascularity of the region, and fluoroquinolone anti-biotics.(3).

Despite its widespread prevalence, lateral epicondylitis is difficult to treat with a single, effective, and long-lasting therapy. Botulinum toxin injection and shock wave therapy are two nonsurgical therapies that have lately become accessible. Tennis elbow surgery now comprises both open and arthroscopic procedures that have been well-documented. (4).

A patient with lateral epicondylitis is usually in their forties or fifties. Both men and women are affected, although the dominant arm is more likely to develop symptoms. Goldie studied lateral epicondylitis for a long period.(5) Overexertion of the extremities, which comprised repeated wrist extension and alternate forearm pronation/supination, was blamed for the onset of symptoms. Manual labour with heavy equipment and considerable strain while completing repetitive activities were found as risk factors in a recent study.(6).

The lateral epicondyle forms pyramid-shaped bony protrusions. ECRB and EDC begin on the posterior face of the anconeus muscle, while ECRB and EDC originate on the anterior face. Only the ECRB and EDC

derive from the anconeus muscle. ECL and brachioradius extend farther along the supracondylar ridge in the anterior portion of the muscle. In contrast, the ECRL is derived from muscles, whereas the ECRB is derived from tendons.(7).

Connecting the ECRB and EDC creates a single extensor tendinous origin. The ECRB's deeper and more superior fibres are affected by lateral epicondylitis. In the front, the supinator muscle sits directly under the extensors, which are responsible for extending the forearm. The epicondyle's tip is where the lateral collateral ligament complex begins. The radial collateral ligament, the lateral ulnar collateral ligament, and the annular ligament make up this complex. Between the brachial and brachioradialis muscles, a radial nerve may be found proximally to the elbow. At the level of the radial head, the superficial radial nerve and the posterior interosseous nerve separate (PIN). The radial tunnel, where the PIN emerges, has been linked to compression-induced refractory lateral epicondylitis.(3,5).

Pain in the lateral epicondyles may be caused by a number of different things. Symptoms are assumed to arise from both internal and external structures, with the relative importance of each varied from person to person. Tennis players with lateral epicondylitis showed altered swing mechanics and increased ECRB activity compared to asymptomatic controls, according to cinematographic and electromyographic investigations. The ECRB's interest in pathology may be due to this.(6). Forearm bands and wrist splints would surely help the patient in a high-tension condition when they are subjected to recurrent microtrauma. (8). In individuals with lateral epicondylitis, a biochemical study found neurokinin receptors in the extensor origin and elevated levels of the excitatory neurotransmitter glutamate after free nerve endings in the aponeurosis and granulation tissue around the lateral epicondyle were detected. These results do not clearly relate lateral epicondylitis to a mechanism for neurogenic pain development or an explanation for the relief offered by steroid injections into alocation that is normally devoid of acute inflammation.(9)

METHODOLOGY

Type of study: An Survey-based study.

Sampling: Simple Random Sampling

Area of Project: Greater Noida

- No of Sample:300
- Groups: Two groups (150 subjects in each group)

  Group 1 – Experimental Group (who were diagnosed with lateral epicondylitis.)
  Group 2 – Controlled Group (normal population without any suffering).
- Sample place: Multicentric Grounds

Inclusion Criteria:

1. Population between 30 to 55 years
2. Diagnosed with lateral epicondylitis.

3. Perform daily activities of living.

Exclusion Criteria:

1. People diagnosed with arthritis.
2. Suffering from any kind of musculoskeletal pain.
3. People taking painkillers.

Instrumentation:

1. DASH
2. QOL
3. Mobile phone and laptop

RESULTS

The results in the study show that there is a significant difference between the disability and quality of life of both groups. As in the correlation of disability vs quality of life in both groups the correlation value of Group 1 is -0.51 which indicates the negative correlation and Group 2 value is -.337 which also shows the negative correlation.

The abbreviations used in the table stand as follows:

Group 1 = Experimental Group
Group 2 = Controlled Group
DASH = Disabilities of the arm, shoulder, and hand.QOL
= Quality of life scale

LIST OF TABLES:

TABLE NO 5.1: DEMOGRAPHIC DESCRIPTIVE STATISTICS OF GROUP 1 AND GROUP2

VARIABLES	GROUP 1 (N = 150)		GROUP 2 (N = 150)	
	MEAN	SD	MEAN	SD
AGE	47.80	4.648	40.73	3.788
WEIGHT	60.733	8.1369	58.733	6.6919

TABLE NO 5.2: DESCRIPTIVE STATISTICS OF GROUP 1 AND GROUP 2 GENDER RATIO.

VARIABLES	GROUP 1 (N = 150)	GROUP 2 (N = 150)
MALE	50	70
FEMALE	100	80

TABLE NO 5.3: COMPARISON OF DASH SCORES OF GROUP 1 AND GROUP 2

VARIABLES	GROUP 1 (N = 150)		GROUP 2 (N = 150)		P-VALUE	T VALUE
	MEAN	SD	MEAN	SD		
DASH SCORE SUM	107.600	27.40230	40.4667	10.63530	P<0.005	28.251
DASH FINAL SCORES	64.6664	22.83502	8.8067	8.87096	P<0.005	29.762

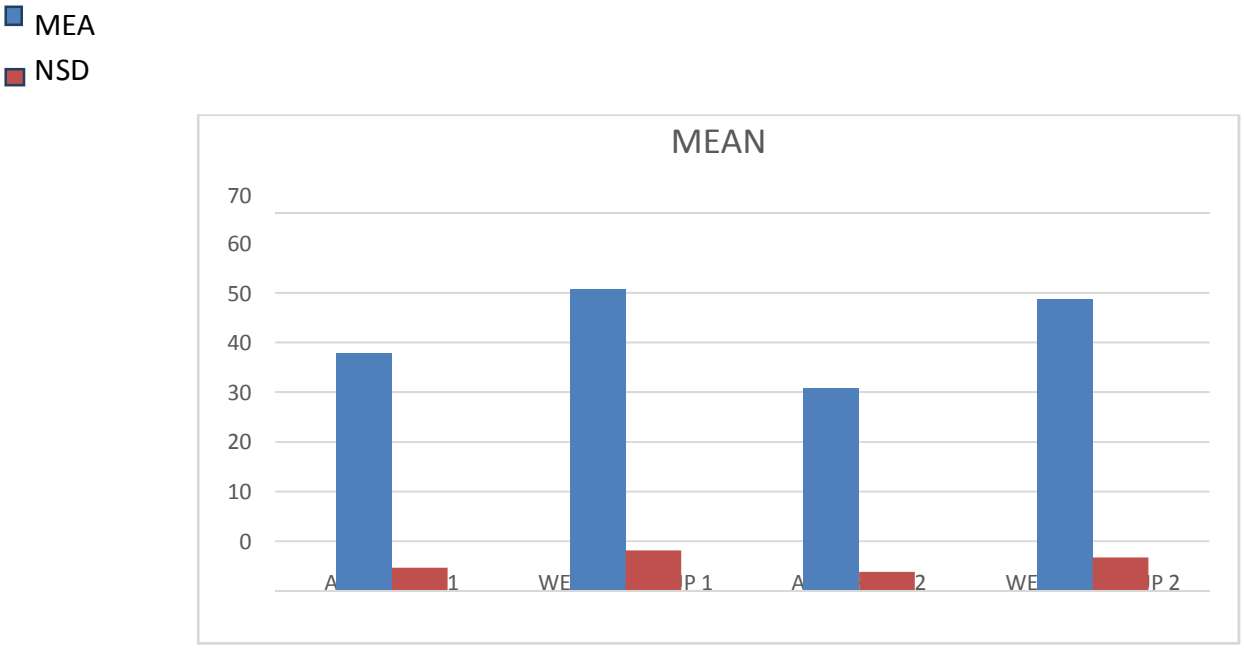
TABLE NO 5.4. COMPARISON OF MEAN OF GROUPS 1 AND GROUP 2 (PAIRED T-TEST)

VARIABLE	GROUP1 (N = 150)		GROUP2 (N =150)			
	MEAN	SD	MEAN	SD	T VALUE	P VALUE
QOL SCORE	45.40	15.700	96.50	4.453	9.857	P<0.005

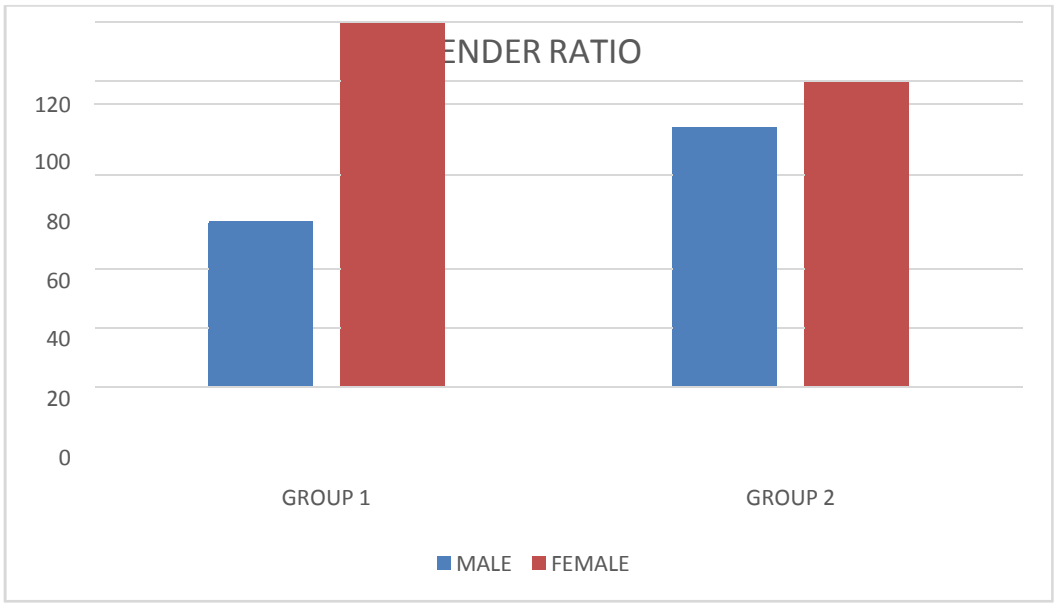
TABLE NO 5.4. CORRELATION OF DASH VS QOL IN GROUP 1 AND GROUP 2.

VARIABLE	GROUP1 (N = 150)	GROUP2 (N =150)	
	DASH VS QOL	DASH VS QOL	P VALUE
CORRELATION	-.051	-.337	0.0003

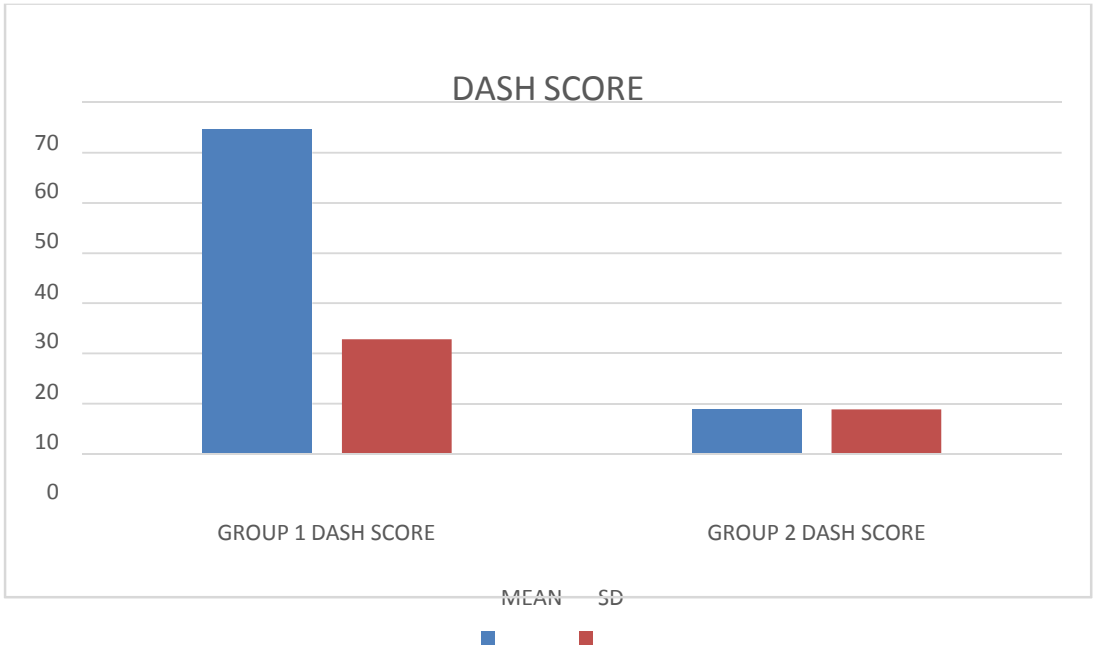
LIST OF GRAPHS:



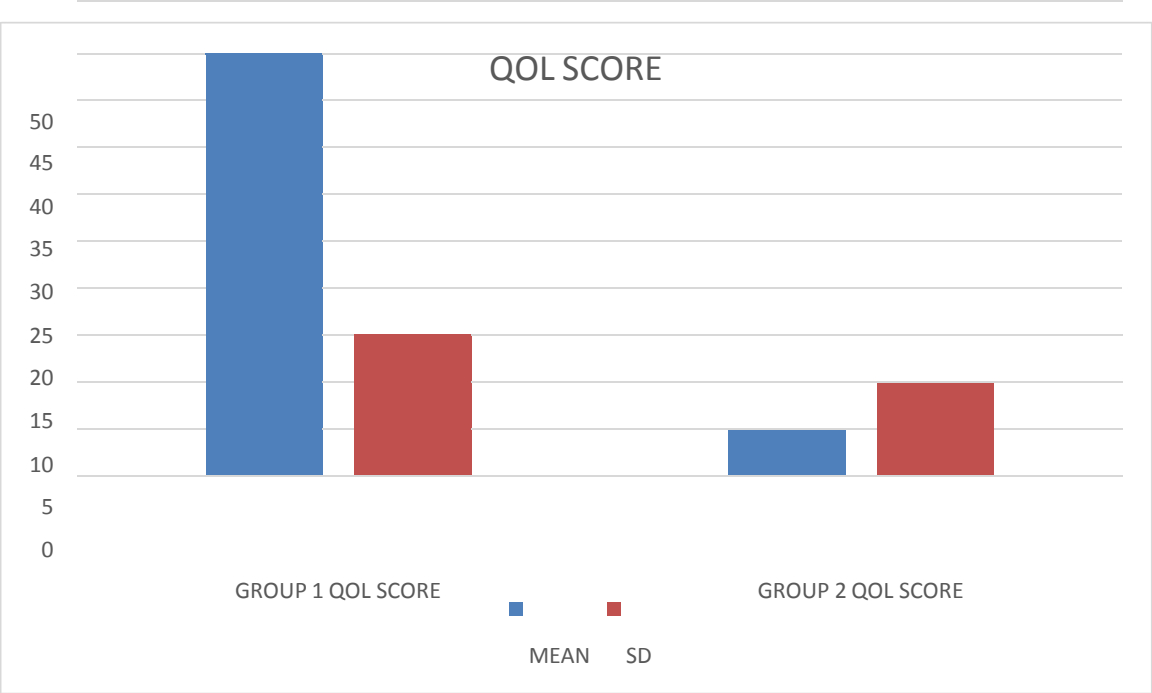
5.5 DEMOGRAPHIC DESCRIPTIVE STATISTICS OF GROUP 1 AND GROUP 2



5.6 GRAPH SHOWING COMPARISON OF GENDER RATIO IN GROUP 1 AND GROUP 2



5.7:GRAPH SHOWING MEAN OF DSAH VALUES OF THE COMPARISON OF GROUP 1 ANDGROUP 2



5.8 :GRAPH SHOWING MEAN OF QOL SCORE FOR GROUP 1 AND GROUP 2.

CONCLUSION

Therefore, this study concludes that it is a difference between disability and quality of life of normal people and people diagnosed with later epicondylitis. The disability in people with Lateral epicondylitis is high and it shows a negative correlation with the score of DASH vs QOL which means that as the disability increase the Quality of life goes down.

REFERENCES

1. Thurston AJ. The early history of tennis elbow: 1873 to the 1950s. The Australian and New Zealand journal of surgery. 1998;68(3):219–24.
2. Nirschl RP. Elbow tendinosis/tennis elbow. Clinics in sports medicine. 1992 Oct;11(4):851–70.
3. Whaley AL, Baker CL. Lateral epicondylitis. Clinics in Sports Medicine. 2004;23(4):677–91.
4. Lenoir H, Mares O, Carlier Y. Management of lateral epicondylitis. Orthopaedics and Traumatology: Surgery and Research. 2019;105(8):S241–6.
5. GOLDIE I. EPICONDYLITIS LATERALIS HUMERI (EPICONDYLALGIA OR TENNIS ELBOW). A

PATHOGENETICAL STUDY. ActachirurgicaScandinavicaSupplementum. 1964;57:SUPPL 339:1+.

6. Haahr JP, Andersen JH. Physical and psychosocial risk factors for lateral epicondylitis: A population based case-referent study. Occupational and Environmental Medicine. 2003;60(5):322–9.
7. Miriam a, Fritz RC, Feller JF, Wischer TK, Genant HK. Was Defined. 1999;(November):1379–82.
8. Martinez-Silvestrini JA, Newcomer KL, Gay RE, Schaefer MP, Kortebein P, Arendt KW. Chronic lateral epicondylitis: Comparative effectiveness of a home exercise program including stretching alone versus stretching supplemented with eccentric or concentric strengthening. Journal of Hand Therapy. 2005;18(4):411–20.
9. Connell D, Burke F, Coombes P, McNealy S, Freeman D, Pryde D, et al. Sonographic examination of lateral epicondylitis. American Journal of Roentgenology. 2001;176(3):777–82.
10. Patel N. Effectiveness of mobilization with movement of elbow compared with manipulation of wrist in patients of lateral epicondylitis. International Journal of Physiotherapy and Research [Internet]. 2013;1(4):177–82. Available from: https://www.ijmhr.org/ijpr_articles_vol1_4/346.pdf
11. Gündüz R, Malas FÜ, Borman P, Kocaoğlu S, Özçakar L. Physical therapy, corticosteroid injection, and extracorporeal shock wave treatment in lateral epicondylitis: Clinical and ultrasonographical comparison. Clinical Rheumatology. 2012;31(5):807–12.
12. Pienimaki TT, Siira PT, Vanharanta H. Chronic medial and lateral epicondylitis: A comparison of pain, disability, and function. Archives of Physical Medicine and Rehabilitation. 2002;83(3):317–21.
13. Genc H, Nacir B, DuyurCakit B, Saracoglu M, Erdem HR. The Effects of Coexisting Fibromyalgia Syndrome on Pain Intensity, Disability, and Treatment Outcome in Patients with Chronic Lateral Epicondylitis. Pain Medicine. 2012;13(2):270–80.
14. Smidt N, van der Windt DA, Assendelft WJ, Mourits AJ, Devill WL, de Winter AF, et al. Interobserver reproducibility of the assessment of severity of complaints, grip strength, and pressure pain threshold in patients with lateral epicondylitis. Archives of Physical Medicine and Rehabilitation. 2002;83(8):1145–50.
15. Ma KL, Wang HQ. Management of Lateral Epicondylitis: A Narrative Literature Review. Pain Research and Management. 2020;2020.
16. Johnson GW, Cadwallader K, Scheffel SB, Epperly TD. Treatment of lateral epicondylitis. American Family Physician. 2007;76(6).
17. Akkurt E, Kucuksen S, Yılmaz H, Parlak S, Sallı A, Karaca G. Long term effects of high intensity laser therapy in lateral epicondylitis patients. Lasers in Medical Science. 2016;31(2):249–53.
18. Akkurt HE, Kocabaş H, Yılmaz H, Eser C, Şen Z, Erol K, et al. Comparison of an epicondylitis bandage with a wrist orthosis in patients with lateral epicondylitis. Prosthetics and Orthotics International. 2018;42(6):599–605.
19. Alizadehkhaiyat O, Fisher AC, Kemp GJ, Frostick SP. Pain, functional disability, and psychologic status in tennis elbow. Clinical Journal of Pain. 2007;23(6):482–9.

20. Chiavaras MM, Jacobson JA, Carlos R, Maida E, Bentley T, Simunovic N, et al. IMpact of platelet rich plasma over alternative therapies in patients with lateral epicondylitis (IMPROVE): Protocol for a multicenter randomized controlled study: A multicenter, randomized trial comparing autologous platelet-rich plasma, autologous whole. Academic Radiology [Internet]. 2014;21(9):1144–55. Available from: http://dx.doi.org/10.1016/j.acra.2014.05.003
21. Chung B, Wiley JP. Effectiveness of extracorporeal shock wave therapy in the treatment of previously untreated lateral epicondylitis: A randomized controlled trial. American Journal of Sports Medicine. 2004;32(7):1660–7.
22. Clarke AW, Ahmad M, Curtis M, Connell DA. Lateral elbow tendinopathy: Correlation of ultrasound findings with pain and functional disability. American Journal of Sports Medicine. 2010;38(6):1209–14.
23. Smidt N, Assendelft WJJ, Arola H, Malmivaara A, Green S, Buchbinder R, et al. Effectiveness of physiotherapy, for lateral epicondylitis: A systematic review. Annals of Medicine. 2003;35(1):51–62.
24. Rahman H, Charturvedi PA, Apparao P, Srithulasi PR. Effectiveness of Mulligan Mobilisation With Movement Compared To Supervised Exercise Program in Subjects With Lateral Epicondylitis. International Journal of Physiotherapy and Research. 2016;4(2):1394–400.
25. Maharashtra T, Pune V. ASSESSMENT OF PAIN , PHYSICAL FUNCTION AND DISABILITY IN PATIENTS WITH LATERAL EPICONDILYITIS. International Journal of Research and Analytical Reviews. 2019;6(1):607–10.
26. Kohia M, Brackle J, Byrd K, Jennings A, Murray W, Wilfong E. Effectiveness of physical therapy treatments on lateral epicondylitis. Journal of Sport Rehabilitation. 2008;17(2):119–36.
27. Lai WC, Erickson BJ, Mlynarek RA, Wang D. Chronic lateral epicondylitis: challenges and solutions. Open Access Journal of Sports Medicine. 2018;Volume 9:243–51.
28. Weber C, Thai V, Neuheuser K, Groover K, Christ O. Efficacy of physical therapy for the treatment of lateral epicondylitis: A meta-analysis. BMC Musculoskeletal Disorders. 2015;16(1).
29. Tasto JP, Cummings J, Medlock V, Hardesty R, Amiel D. Microtenotomy using a radiofrequency probe to treat lateral epicondylitis. Arthroscopy - Journal of Arthroscopic and Related Surgery. 2005;21(7):851–60.
30. Trudel D, Duley J, Zastrow I, Kerr EW, Davidson R, MacDermid JC. Rehabilitation for patients with lateral epicondylitis: A systematic review. Journal of Hand Therapy. 2004;17(2):243–66.
31. Waugh EJ, Jaglal SB, Davis AM, Tomlinson G, Verrier MC. Factors Associated with Prognosis of Lateral Epicondylitis after 8 Weeks of Physical Therapy. Archives of Physical Medicine and Rehabilitation. 2004;85(2):308–18.
32. Gummesson C, Atroshi I, Ekdahl C. The disabilities of the arm, shoulder and hand (DASH) outcome questionnaire: Longitudinal construct validity and measuring self-rated health change after surgery. BMC Musculoskeletal Disorders. 2003;4:1–6.

33. Beaton DE, Katz JN, Fossel AH, Wright JG, Tarasuk V, Bombardier C. Measuring the whole or the parts? Validity, reliability, and responsiveness of the Disabilities of the Arm, Shoulder and Hand outcome measure in different regions of the upper extremity. Journal of hand therapy : official journal of the American Society of Hand Therapists. 2001;14(2):128–46.
34. Burckhardt CS, Woods SL, Schultz AA, Ziebarth DM. Quality of life studies in nursing science (2). Quality of life of adults with chronic illness: a psychometric study. Kangokenkyu The Japanese journal of nursing research. 1992;25(3):203–11.