

ORIGINAL RESEARCH

IJPHY

EFFECTIVENESS OF MEDIAL TO LATERAL TAPING WITH EXERCISE PROGRAMME IN SUBJECTS WITH LATERAL EPICONDYLITIS

Bhavana Dattaram Desai¹**Vinod Babu .K²****Sai Kumar .N³****Asha .D⁴****ABSTRACT**

Background: Medial to lateral tapping and exercise programme has been found to be effective in Lateral epicondylitis. The purpose to find the combined effect of Medial to lateral tapping with exercise programme for subjects with lateral epicondylitis on pain intensity and functional ability.

Method: An experimental study design, selected 40 subjects with Lateral epicondylitis randomized 20 subjects each into Study and Control group. Control group received only exercise programme while study group received combined medial to lateral tapping with exercise programme thrice a week for 4 weeks. Pain intensity was measured using Visual analogue scale and functional ability was measured using Patient Rated Tennis Elbow Evaluation questionnaire before and after 4 weeks of treatment.

Results: When the post-intervention means were compared between Study and Control group after 4 weeks of treatment found statistically significant difference in the improvement in outcomes measures in means of VAS and PRTEE before and after intervention within the groups.

Conclusion: It is concluded that the Medial to lateral tapping with exercise programme is more effective than the exercise programme in reduction of pain and improve functional abilities for subjects with Lateral epicondylitis.

Key Words: Lateral epicondylitis, Medial to lateral tapping, Exercise programme, Pain, Functional ability, Tennis Elbow.

Received 15th May 2014, revised 02nd June 2014, accepted 6th June 2014

¹ MPT, Post Graduate Student 2012-2014,

^{*2} Assistant Professor in Physiotherapy,

³ Professor & Principal,

⁴ Associate Professor,

K.T.G. College of Physiotherapy and K.T.G Hospital, Affiliated to Rajiv Gandhi University of Health Sciences, Bangalore, Karnataka, India.

CORRESPONDING AUTHOR

***2 Dr. Vinod Babu .K**, MPT, MD (AM), Assistant Professor, K.T.G. College of Physiotherapy and K.T.G. Hospital, Bangalore-560 091, India. e-mail: vinodbabupublications@gmail.com; desaibhavana22@gmail.com

INTRODUCTION

Lateral epicondylitis is commonly known as “tennis elbow”, is a painful syndrome that occurs in the area of lateral epicondyle.¹ It is prevalent in individuals who perform a combination of forceful and repetitive activities.² It is equally common in both the genders and usually develops between 30 to 50 years.³ The extensor carpi radialis brevis (ECRB) and its origin are believed to be involved in the pathogenesis as a result of repetitive micro trauma to the musculo-tendinous unit causing inflammation and degenerative tissue damage⁴ due to poor biomechanical design for withstanding high load.⁵

Physical therapy regimens such as strength training and stretching, braces, straps, taping, rest and exercises⁶ are commonly used to treat lateral epicondylitis. Strengthening and stretching exercises are the main components of exercise programmes.⁷ Evidence suggests that exercise programs can reduce pain, and improve the grip strength for subjects with lateral epicondylitis.⁷ However well designed trial is needed to study the effectiveness of supervised exercise program for tennis elbow consisting of eccentric and static stretching exercise.⁸

Medial to lateral taping for lateral epicondylitis applied starting from medial epicondyle proximally to laterally below elbow joint parallel to wrist crease.⁹ Taping restrict the movement of the tendon and reduces stretching during everyday activities.¹⁰ The mechanism of taping effects relates to neurophysiological model that the tape exert an effect on grip strength by primarily altering pain perception, either locally at the elbow by inhibiting nociceptors, facilitating large afferent fiber input into the spinal cord and/or by stimulating endogenous processes of pain inhibition.¹¹ Application of taping significantly showed improvement in wrist extensor force reproduction and wrist joint position reproduction with or without lateral epicondylitis.¹² It also found that taping showed impressive effect on wrist extension, grip strength and pain immediately after the application. Studies have found improved pain-free grip strength and pressure pain threshold immediately after application. Mulligan’s mobilization with movement and taping technique found significant improvement in pain, grip strength and function than the traditional technique alone.¹³ Therefore, the taping treatment can optimize the loads on the forearm muscles during exercises and functional rehabilitation.¹⁴

Even though both techniques commonly used in the treatment of tennis elbow, there are no studies found on combined effect of Medial to lateral tapping with

exercise programme on pain intensity and functional ability. Therefore, there is a need to know the effect of Medial to lateral tapping with exercise programme in lateral epicondylitis. This study with research question whether the medial to lateral tapping with exercise programme does have effect on improving pain and functional ability for subjects with lateral epicondylitis? The purpose of the study with objective is to find the effect of Medial to lateral tapping with exercise programme for subjects with Lateral epicondylitis on pain intensity and functional abilities. It was hypothesized that there will be a significant effect of medial to lateral taping with exercise programme on pain and functional ability for subjects with lateral epicondylitis.

METHODOLOGY

Pre to post test experimental study design with two group- Study and Control group. As this study involved human subjects the Ethical Clearance was obtained from the Ethical Committee of KTG College of Physiotherapy and K.T.G. Hospital, Bangalore as per the ethical guidelines for Bio-medical research on human subjects. This study was registered with University (RGUHS) No: 09_T031_39089. The study was conducted at K.T.G Hospital, Bangalore. Subject were included both male and females, age group between 30 to 50 years, who was willing to participate, Subjects with pain at the lateral epicondyle of elbow from past 6 weeks, pain increasing during palpation, gripping, and resisted wrist and finger extension, positive Mill’s^{15,16} and Cozen’s test, Subjects excluded with Concomitant bony, neurological impairments, neurological diseases, previous trauma to the elbow region, previous surgery to the elbow region, cervical radiculopathy, systemic diseases, allergic to tape. Total 40 Subject (n=40) were recruited based on Simple random sampling method and randomly allocated them using marked closed chits into two groups 20 subjects into study group and 20 into control group. Total duration of treatment for both the groups was given for 4 weeks, 3 sessions per week. All the subjects fulfilling the inclusion criteria were informed about the study and a written informed consent was taken.

Procedure of intervention for Control group: Treated with exercise program consisting stretching and eccentric exercises. The stretching position for the ECRB tendon was with the elbow in extension, forearm in pronation, and wrist in flexion and with ulnar deviation, according to the patient’s tolerance. Recommendations for the optimal time for holding this stretching position vary, ranging from as little as

3 seconds to as much as 60 seconds. A stretch for 30–45 seconds hold was achieved for increasing tendon flexibility. A 15–45 seconds rest interval was given between each repetition. A static stretch was repeated several times per treatment session, although the first stretch repetition results in the greatest increase in muscle-tendon unit length.

Eccentric exercises for LET was performed on a bed with the elbow supported on the bed in full extension, forearm in pronation, wrist in extended position (as high as possible), and the hand hanging over the edge of the bed. In this position, patients were asked to flex their wrist slowly until full flexion is achieved, and then return to the starting position. Patients were instructed to continue with the exercise even if they experience mild pain. However, they were instructed to stop the exercise if the pain becomes disabling. They had performed three sets of 10 repetitions at each treatment session, with at least 1 min rest interval between each set. When a patient was able to perform the eccentric exercises without experiencing any minor pain or discomfort, the load is increased using free weights or therabands.

Procedure of intervention for Study group: Received Medial to lateral taping with exercise programme. The tape used in the study was non-elastic, 3.8-cm wide zinc oxide tape with adhesive backing and high tensile strength. The subjects were asked to rest the elbow in supported position where elbow was slightly in flexion and pronated and wrist in extended position to contract the ECRB. The tape was applied on the proximal forearm 3 cms distal to the lateral epicondyle, starting medially and ending laterally parallel to the wrist line. 2 or 3 anchors of tape was applied. The tape is tightened until the subject agrees that it snug's during a contraction of the wrist extensors, but not impeding blood flow. The tape applied be comfortable when the wrist extensors was relaxed.



Figure 1: Stretching position for ECRB



Figure 2: Medial to lateral taping

Outcome Measurements:

Outcome measurements such as Intensity of pain using Visual Analog Scale (VAS) and functional ability using Patient Rated Elbow Evaluation Test (PRTEE) for

each patient was measured before and after 4 weeks of intervention in both Study and Control group and the data was used for the statistical analysis.

Visual Analog Scale: VAS is presented as 10 cm line. Patient is asked to mark a 10cm line to indicate pain intensity where the end points are the extremes of no pain and pain as bad as it could be, or worst pain. Visual Analog scale (VAS) has high reliability and concurrent validity to measure intensity of pain.¹⁷

PRTEE: This scale consists of 5 pain items and 10 functional items questions of Lateral epicondylitis, for each question the patient select one score out of ten that best describe his ability. For each 15 items the total score is 10, if the first point is marked, the score is zero, if the last is marked the score is 10. Computing the Subscales: Pain Score = Sum of the 5 pain items (out of 50) Best Score = 0, Worst Score = 50, Function Score = Sum of the 10 function items, Divided by 2 (out of 50) Best Score = 0, Worst Score = 50, Computing the Total Score : Total Score = Sum of pain + function scores Best Score = 0, Worst Score = 100. The responses to the fifteen items are totaled out of 100, where pain and disability are equally weighted. The PRTEE has been found to be effective in providing simple, quick and reliable estimations of arm pain functions in patients with lateral epicondylitis.¹⁸ The PRTEE appears to be sensitive to change, but the margin of difference between a clinically relevant change and no change is very small.¹⁹

Statistical Methods:

Descriptive statistical analysis was carried out in the present study. Out Come measurements analyzed are presented as mean \pm SD. Significance is assessed at 5 % level of significance with p value was set at 0.05 less than this is considered as statistically significant difference. Paired 't' test as a parametric and Wilcoxon signed rank test as a non-parametric test have been used to analysis the variables pre-intervention to post-intervention with calculation of percentage of change. Independent 't' test as a parametric and Mann Whitney U test as a non-parametric test have been used to compare the means of variables between two groups with calculation of percentage of difference between the means. Statistical software: The Statistical software namely SPSS 16.0, Stata 8.0, MedCalc 9.0.1 and Systat 11.0 were used for the analysis of the data and Microsoft word and Excel have been used to generate graphs, tables etc.

RESULTS:

Table-1 shows that in study Group there were 20 subjects with mean age 41.15 years and there were 9 males and 11 females were included in the study. In control group there were 15 subjects with mean age 30.07 years and were 6 males 9 females were included in the study. There is no significant difference in mean ages between the groups. In both the groups there were 8 right sided and 7 left sided subjects with no significant difference between the side distributions between the groups. In table-2 shows that there is a statistically significant change in means of Visual analog score and PRTEE Score when means were analyzed from pre intervention to post

intervention within the groups with $p < 0.000$ with negative percentage of change showing that there is decrease in the post means. There is clinical significant improvement with large effect size in both the groups. In table-3 shows that there is no statistically significant difference in means of Visual analogue score for pain and PRTEE score for functional ability when pre intervention means were compared between study and control groups. When post intervention means were compared there is a statistically significant difference between study and control groups with clinically significant difference in post means with large effect size.

Table 1: Basic Characteristics of the subjects studied

Basic Characteristics of the subjects studied		Study Group	Control Group	Between the groups Significance ^a
Number of subjects studied (n)		20	20	--
Age in years (Mean± SD)		41.15± 6.51 (31-56)	39.45± 5.12 (31-49)	p= 0.420 (NS)
Gender	Males	9	10	p=0.000**
	Females	11	10	
	Within the Significance	P=0.000**	P=1.000(NS)	
Side	Right	16	6	p=0.000**
	Left	4	14	
	Within the Significance	P=0.000**	P=0.000**	

a - Pearson Chi-Square

Table 2: Analysis of VAS and PRTEE score within study and control Groups (Pre to post test analysis)

	Pre intervention (Mean±SD) min-max	Post intervention (Mean±SD) min-max	Percentage change	Z value ^b (Non parametric significance)	t value a (Parametric)	Parametric Significance P value	95%Confidence interval of the difference		Effect Size (r)
							Lower	Upper	
Study Group									
Visual analog scale score in cm	6.49± 1.15 (4.6- 8.2)	1.77±1.1 (3.8- 35.4)	-72.72%	-3.921 p=0.000**	13.714	P <0.000**	3.99	5.44	+0.90 (Large)
PRTEE Score (No Unit)	65.95± 11.07 (48- 82)	17.25± 10.7 (0-40)	-73.84%	-3.925** p=0.000**	25.553	P <0.000**	44.71	52.68	+0.91 (Large)
Control Group									
Visual analog scale score in cm	6.60± 1.28 (4.8- 9.0)	4.05±1.48 (1.0-7.2)	-38.63%	-3.922 p <0.000**	15.079	P <0.000**	2.20	2.90	+0.67 (Large)
PRTEE Score (No Unit)	64.95± 12.02 (48- 85)	39.50± 15.99 (8-74)	-39.18%	-3.923 p <0.000**	12.361	P <0.000**	21.14	29.75	+0.66 (Large)

** Statistically Significant difference $p < 0.05$; NS- Not significant; a. Pared t test.

b. Wilcoxon Signed Ranks Test

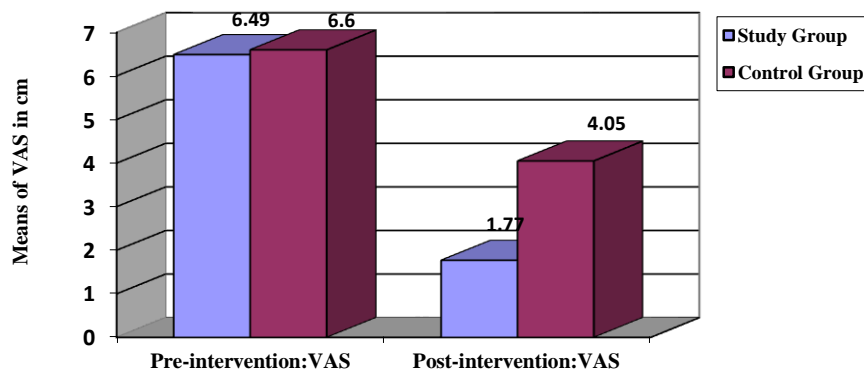
Table 3: Comparison of means of VAS score and PRTEE score between study and control Groups (PRE AND POST INTERVENTION COMPARISON)

	Study Group (Mean±SD) min-max	Control Group (Mean±SD) min-max	Percentage of difference	Z value ^b (Non parametric)	t value ^a (Parametric)	Significance P value	95% Confidence interval of the difference		Effect Size ^r
							Lower	Upper	
Pre-Intervention									
Visual analog scale score in cm	6.49± 1.15 (4.6- 8.2)	6.60± 1.28 (4.8- 9.0)	1.68%	Z=-0.284 P=0.776	-0.298	P =0.767 (NS)	-0.89	0.66	+0.04 (Small)
PRTEE Score (No Unit)	65.95± 11.07 (48- 82)	64.95± 12.02 (48- 85)	-1.51%	Z=-0.285 P=0.776	0.274	P =0.786 (NS)	-6.39	8.39	+0.04 (Small)
Post-Intervention									
Visual analog scale score in cm	1.77±1.1 (3.8- 35.4)	4.05±1.48 (1.0-7.2)	78.35%	Z=-4.256 P=0.000	-5.444	P =0.000**	-3.12	-1.43	+0.65 (Large)
PRTEE Score (No Unit)	17.25± 10.7 (0-40)	39.50± 15.99 (8-74)	78.41%	Z= -4.135 P=0.000	-5.166	P =0.000**	-30.96	-13.53	+0.63 (Large)

** Statistically Significant difference p<0.05; NS- Not significant

a. Independent t test b. Mann-Whitney Test

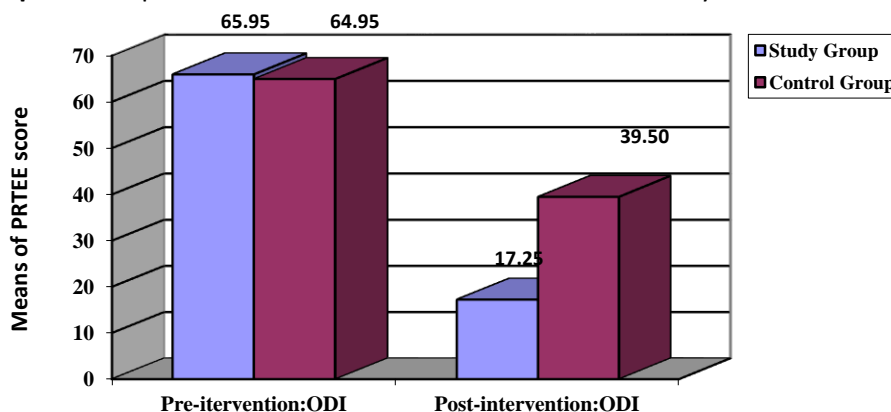
Graph 1: Comparison of means of VAS between Study and Control Groups



Graph 1 shows that there is no statistically significant difference in means of Visual analogue scores for pain when pre intervention means were compared between study and control groups. There is a

statistically significant difference when post-intervention VAS score means were compared between the groups.

Graph 2: Comparison of means of PRTEE score between study and control Groups



Graph 2 shows that there is no statistically significant difference in means of PRTEE score when pre-intervention means were compared between study

DISCUSSION:

The result from the analysis found that there is statistically significant improvement in pain and functional ability in subjects who received medial to lateral tapping with exercise programmed than the subjects who received exercise programme.

In control group, analysis of pain and functional ability within the group who received exercise programme shows that there is a statistically significant change in means of VAS and PRTEE when analysed from pre intervention to post intervention within the group, this improvement could be because of effects of the eccentric training and stretching exercise. D. Stasinopoulos et.al.²⁰ demonstrated that eccentric training results in tendon strengthening by stimulating mechano-receptors in tenocytes to produce collagen, which is probably the key cellular mechanism that determines recovery from tendon injuries. In addition, eccentric training may induce a response that normalizes the high concentrations of glycosaminoglycans. It may also improve collagen alignment of the tendon and stimulate collagen cross-linkage formation, both of which improve tensile strength. The effects of exercise programmes for tendon injuries may be attributable to either the effect of stretching, with lengthening of the muscle-tendon unit and consequently less strain experienced during joint motion or the effects of loading within the muscle-tendon unit, with hypertrophy and increased tensile strength in the tendon. During eccentric training, the blood flow is stopped in the area of damage and this leads to neovascularisation, the formation of new blood vessels, which improves blood flow and healing in long term which leads to reduces pain and improves functional capacity.²¹

In study group, the analysis of pain and functional ability within the group who received Medial to lateral tapping with exercise programme shows that there is a statistically significant improvement in means of VAS and PRTEE when analysed from pre intervention to post intervention within the group. This could be because of combined effect of Medial to lateral tapping with exercise programme. Won-Hwee Lee et.al. noticed that taping relieves tension at the lateral epicondyle by acting like a secondary muscle attachment site, supports the ligament and capsules of unstable joint by limiting excessive or abnormal anatomical movements, prevents injury to muscle-tendon by compressing the area and preventing the movement. Taping restrict the

and control groups. There is a statistically significant difference when post-intervention PRTEE means were compared between the groups.

movement of the tendon and reduces stretching during everyday activities. Among the taping application methods, the ring taping method is used commonly and is applied completely around the forearm just below the muscle tendon junction. Taping technique disperses stresses generated by muscle contraction, thereby reducing painful inhibition and allowing the subject to contract more forcefully. In this neurophysiological model the tape exert an effect on grip strength by primarily altering pain perception, either locally at the elbow by inhibiting nociceptors, facilitating large afferent fiber input into the spinal cord and/or by stimulating endogenous processes of pain inhibition. The tapping shows an impressive effective technique on improving wrist extension, grip strength and pain in individuals with tennis elbow. This method of treatment is useful in the management of this condition during exercise and functional rehabilitation.

Pre intervention Comparison of means of VAS, Functional ability score between the study and control group found that there is no statistically significant different. When the means of Post intervention was compared there is statistically significant difference in VAS and PRTEE between the control and study groups. Subjects receiving medial to lateral tapping with exercise programme reduced the pain level by -72.72% than the one who receive only exercise where reduced by -38.63%. Study group also showed reduction in PRTEE by -73.84% than the control group which was reduced by -39.18%. There is clinically significant improvement in post intervention values with large effect size in groups with VAS +0.65 and PRTEE + 0.63.

Improvement in pain and functional ability was found using standardized outcome measurements there are limitation in methodology regarding the optimum tension for tapping applied for lateral epicondylitis, other limitation is that the rate of increase of the load cannot be standardized among patients during the treatment period so to avoid this the load of eccentric exercises was increased according to the patient's symptoms to prevent re-injury. In this study it was not able to define the velocity of contraction to avoid the possibility of re-injury and difficulty in replication, to overcome this patients were asked to perform the eccentric exercises slowly. Static stretching exercises are individualized by the patient's description of the discomfort and pain experienced during the

procedure and therefore cannot be generalized to the individual.

Therefore, based on the findings the present study found that there is a statistically significant effect medial to lateral tapping with exercise programme in improving pain and functional disability than exercises programme alone. Hence, the present rejects null hypothesis.

LIMITATIONS OF THE STUDY:

1. Subjects with wide range group between 30 to 50 years of age were considered for the study, thus results cannot be generalized to individual age.
2. Follow-up was not done therefore long term effects were not found.
3. Only pain and functional ability were studied. Measurements such as sensitivity to pain, range of motion and quality of life were not studied.

RECOMENDATION FOR FUTURE RESEARCH:

1. Further study on other taping techniques combined with exercise programme and other treatment technique needed to find the effective intervention for lateral epicondylitis.
2. Studies are needed to find the long term effect of combined medial to lateral taping with exercise programme.
3. Further study can be carried on effectiveness of taping technique combined with exercise programme on other outcome measures such as grip strength, ROM, and quality of life.

CONCLUSION:

The present study concludes that 4 weeks of combined medial to lateral tapping with exercises programme for lateral epicondylitis found significant effective in improvement of pain and functional abilities than only exercise programme. It is clinically important to consider combined Medial to lateral tapping with exercise programme as an adjunct to exercise program for patients with Lateral epicondylitis.

REFERENCES:

1. Trudel D, Duley J, Zastrow I, Kerr Ew, Davidson R, Macdermid JC. Rehabilitation for with lateral epicondylitis: a systemic review. *Journal of Hand Therapeutics*. 2004; 17(2): 243-266.
2. Fedorczyk Jane M. Tennis elbows: Blending basic science with clinical practice. *Journal of Hand Therapeutics*. 2006; 19(2):146-153.
3. Bisset LM, Russell T, Bradley S, et al. Bilateral sensorimotor abnormalities in unilateral lateral epicondylaagia. *Archives of Physiologic Medical Rehabilitation* 2006; 87(4): 490-495.
4. Olliverre Co, Nirchi RP. Tennis elbow. *Current concepts of treatment and rehabilitation*. 1996; 22(2): 133-139.
5. Wilson A, Boyling JD. *Effective management of musculoskeletal injury* (London). 1st ed; 2002.
6. Neil Motyer. *Managing Tennis elbow (Lateral epicondylitis)*. *Journal of the Australian Association of Massage therapy*.
7. Greg W. Johnson, Kara Cadwallader, Scot B. Scheffel, Ted D. Epperly. *Treatment of lateral epicondylitis*. 2007; 76(6): 843-848.
8. D Stasinopoulos, K Stasinopoulou, M I Johnson. An exercise programme for the management of lateral elbow tendinopathy. *clinical study British Journal of Sports Medicine*. 2012; (39): 944-947.
9. SJ- Shultz, PA Houglum, DH Perrin. *Atheletic taping and bracing*. *Human Kinetics*. 2nd ed; 2000.
10. Thompson A, skinner A, Piercy. *Tidy's physiotherapy*. 12th ed; 1991.
11. Alizer Shamsoddini, Mohammad Taghi Hollisaz, Rahmatollah Hafezi. Initial effect of taping technique on wrist extension and grip strength and pain of individuals with lateral epicondylitis. *Iranian Rehabilitation Journal*. 2010; (8): 11.
12. Won- Hwee Lee, Oh-Yun Kwon, Chung-Hwi Yi, Hye-Seon Jeon, Sung-Min Ha. Effects of Taping on Wrist Extensor Force and Joint Position Reproduction Sense of Subjects with and Without Lateral Epicondylitis. *Journal of Physical Therapy Science* 2011; 23(4): 629-634.
13. Akram Amro, Ina Diener, Wafa 'Omar Bdair, Isra M. Hameda, Arwa . I. Iiyana. The effect of mulligan mobilization with movement and tapping technique on pain, grip, strength and function in patients with Lateral epicondylitis. *Hong kong Physiotherapy Journal*. 2010; 28(1): 19-23.
14. Vicenzino B, Brooksbank J, Minto J. Initial effects of elbow taping on pain-free grip strength and pressure pain threshold. *Experimental study. Journal of Orthopaedic and Sports Physiotherapy*. 2003; 33(7): 400-407.
15. Fairbank SR, Corelett RJ. The role of the extensor digitorum communis muscle in lateral epicondylitis. *J Hand Surg Br*. 2002; 27(5): 405-409.
16. David. J. Magee. *Orthopaedic Physical Assessment*. 5th ed; 2008.
17. Ngoc Quan Phan, Christine Biome, Fleur Fritz, Joachim Gress, Adam Reich, Toshi Ebata, Matthias Augustine, Jacek C. Szepietowski and Sonja Stander. Assessment of Pruritis Intensity: prospective Study on Validity and Reliability Scale of the Visual Analog Scale, Numerical Rating Scale

-
- and Verbal Rating Scale in 471 patients with Chronic Pruritus: clinical report: Acta Derm Venereol.2012; (92): 502-507.
18. Tom J. Overend, Jennifer L, Wuori-Fearn, JohnF. Kramer, Joy C, MacDermid, Reliability of a patient-rated forearm evaluation questionnaire for patients with lateral epicondylitis.1999; 12(1): 31-37.
19. Bryan Chung and J Preston Wiley. Validity, Responsiveness and Reliability of Patient Rated Tennis Elbow Evaluation. British Association of Hand Therapist.2010;15(3): 62-68.
20. Jolio A. Martinez-Silvestrini, Karen .L. Newcomer.Md, Ralph E.Gay, Michael P.Schaefer, Chronic Lateral Epicondylitis: Comparative Effectiveness of a Home Exercise Program Including Stretching Alone versus Stretching Supplimented with Eccentric or Concentric Strengthening. Journal of Hand Therapy.2005; 18(4):411-420.
21. Jean-Francois Kaux, Benedicte Forthomme, Caroline Le Goff, Jean-Michel Crielaard and Jean-Louis, Croisier. Current Opinions on Tendinopathy. Journal of Sports Science and Medicine 2011; 10(2): 238 – 253.

How to cite this article:

Bhavana Dattaram Desai, Vinod Babu .K, Sai Kumar .N, Asha .D. EFFECTIVENESS OF MEDIAL TO LATERAL TAPING WITH EXERCISE PROGRAMME IN SUBJECTS WITH LATERAL EPICONDYLITIS. Int J Physiother.2014; 1(2):83-90.