

The Effectiveness of Phonophoresis and Positional Release Therapy in Patients with Plantar Fasciitis

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Abstract:

Aim of the study: The aim of the study is to find out the effectiveness of phonophoresis and positional release therapy in patients with plantar fasciitis.

Method of study: 10 subjects of plantar fasciitis were selected in this study age group between 20 - 55 years and each of them assigned for treatment. The treatment sessions include 8 minutes of phonophoresis and positional release therapy for 10 days. By using visual analogue scale pre-test score was measured. After finishing the 10 days treatment sessions the post test score was noted. Finally, pre-test & post test score were compared.

Result: At the end of this study shows that phonophoresis and positional release therapy helps to relieve pain in plantar fasciitis

Conclusion: On the basis of the result it was concluded that phonophoresis and positional release therapy are useful in relieving pain in plantar fasciitis.

Key Words: Plantar fasciitis, Phonophoresis, Positional release Therapy.

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I. Introduction:

The normal every day activities of standing and walking depends upon the mechanical effects human foot. When the human foot does not provide a sound interfere with the ground Variety of activities will be restricted. The joint and muscles of ankle and foot are designed to provide stability as well as mobility in the terminal. Submitters of lower extremity. The functions of plantar fascia are,

- To provide static support to the longitudinal arch
- Shock absorption during gait.

Plantar fasciitis is known as over use syndrome. It is due to an inflammatory process caused by repetitive micro tears of the fascia is widely variable with no consensus on which conservative modality is most effective Multiple treatment have been recommended with varying degree for plantar fasciitis. The conservative modalities are used to plantar fasciitis. These includes orthotics. physical therapy and medications.

Biomechanics of plantar fasciitis:

The plantar fascia is an important structure stabilizing and locking the foot in supination. Pronation occurs in subtalar joint Abnormal position can also affect the phasic activity of muscle action upon the foot, the intrinsic foot muscles are reported to demonstrate increased periods of activity in pronated foot. An excessively pronated foot will cause excessive internal rotation of lower limb during walking and running. Because of this, joint and plantar ligament and plantar musculature of foot and lower limb are subjected to greater demands.

Excessive pronation causes medial longitudinal arch to flatten and straining the plantar fascia and plantar musculature. Phonophoresis is the movement of drugs through the skin in to the subcutaneous tissue under the influence of ultrasound. Many drugs are absorbed through the skin very slowly and it is also known as sonophoresis or ultra-sonophoresis.

Phonophoresis rules on perturbation of the tissue causing more partial movement and thus encouraging absorption of drugs. The effect of phonophoresis are those of the particular drug employed combined with the effect of ultrasound Phonophoresis is the use of ultrasound to enhance delivery of molecules, usually anti-inflammatory analgesic or anaesthetic through the stratum corneum

Positional release therapy is a method of total body evaluation and treatment using the tender points and body elevated and that treatment points and body position of comfort to resolve pain or dysfunction.

To correct imbalance in the musculoskeletal system to improve the health and function. It is an indirect technique where the body part moves away from the resistance barriers that is in the direction of ease. It is a passive technique.

II. Materials And Methods:

Study Design: The study design is a Quasi-Experimental study with the 10 number of populations selected based on the Inclusion criteria. The study was conducted in Outpatient department in Physiotherapy Outpatient Department, Adhiparasakthi College of Physiotherapy, Melmaruvathur. Chennai.

Procedures

Phonophoresis:

Contact method with continuous or pulsed mode duration 8 minutes and intensity of 0.8w/sq.cm was used. Transducer head with ultrasonic gel and lidocaine ointment was placed on the posterior medial aspect calcaneal tuberosity of the site of pain before the output was turned on. After turning on the transducer head continually moved in the form of circles with even pressure⁸.

Position of the Patient: Prone lying

Position of the Therapist: Facing the patient

Method of Application: Direct contact method

Parameters setting

Mode: Convenient mode

Intensity: 0.8w/cm²

Frequency: 3 MHZ

Duration: 8 minutes

Number of settings: 1 setting / day

Positional Release Therapy:

After palpating the tender point, it is Ischaemically compressed either intermittently or persistently application of brief mechanical pressure on the tender point with one fingertip in order to determine tenderness⁹

The foot should then be positioned most probably in to pure plantar flexion and gentle fine-tuned by rotation, until the score in the tender point has reduce by atleast 70% This position is held for 9 seconds with 3 repetitions that is total of 270 seconds was given

III. Analysis And Results:

Table:1 Analysis of VAS

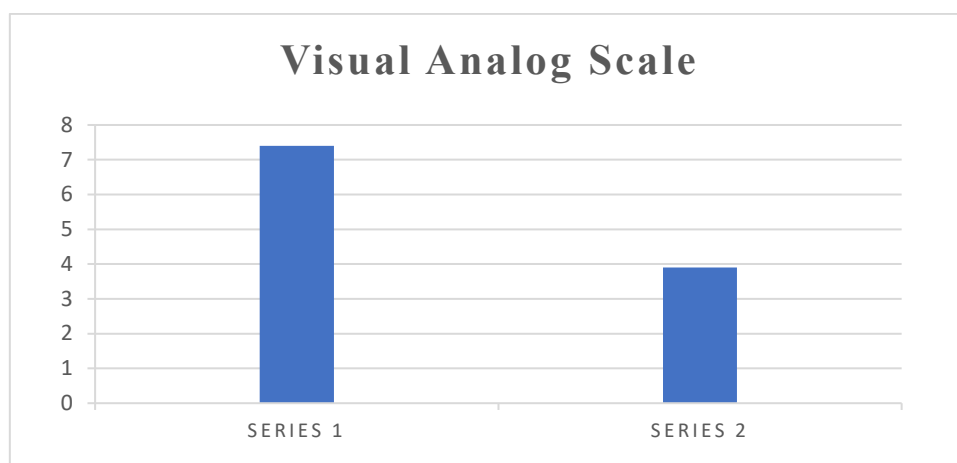
TABLE: 1

Paired samples statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 VAR00035	7.4000	10	1.17379	.37118
VAR00036	3.9000	10	.99443	.31447

Paired samples Test

	Paired Differences				T	df	Sig(2-tailed)	
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower				Upper
Pair 1 VAR00035 VAR00036	3.50000	.70711	.22361	2.99417	4.00583	15.652	9	.000



The above chart shows that the pre and post test value of Visual Analog Scale.

Result:

At the end of this study the result shows that phonophoresis and positional release therapy help to relieve the pain.

IV. Discussion:

This study was aimed to investigate the phonophoresis and positional release therapy for patients with plantar fasciitis. Result indicates that phonophoresis and positional release therapy is a feasible intervention during pain and rehabilitation.

V. Conclusion:

From the result, it has been concluded that treatment with phonophoresis and positional release therapy is effective in patients with plantar fasciitis. Based for the pre and post test score of Visual analog scale, phonophoresis and positional release therapy had significant effect in reducing pain.

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