



## A COMPARATIVE STUDY ON THE EFFICACY OF MYOFASCIAL TRIGGER POINT RELEASE WITH CUPPING THERAPY AND DRY NEEDLING IN PLANTAR HEEL PAIN

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**Abstract:** Background and Purpose: Plantar heel discomfort is common in both men and women as a result of everyday activities. The goal of the study is to investigate if Dry needling treatment and Cupping therapy may assist patients lessen discomfort in their plantar heel. Material and Method: A sample size of 40 men and women were taking who were divided into two group of 20 each. The first group was simple random sampling method of Dry Needling therapy. The second group was simple random sampling method of Cupping therapy. The reading was taken through VAS and FFI scale before and after the activity of treatment. Results: This result started that men and women who got treatment under dry needling and cupping therapy experience they will get changes in his/her pain. Dry Needling was effective treatment for plantar heel pain patients Conclusion: Group A were more benefitted from Group B as they experience changes in pain.

**Index Terms – Cupping, Needling**

### I. INTRODUCTION

Planter heel pain is very common musculoskeletal epidemiology of the foot. Heel pain in athletic and nonathletic populations is a common problem. Many women and men in india or anywhere else in the world tends to live a sedentary life style without much exercising besides doing household chores.2AS I contact with a lot of men and women during my research I am seeing that the women and men who do physical activity say that they experience pain much, less and feel good after any kind of activity.I'll found that 78% of patients with painful heels have ankle dorsiflexion range of motion of least 5 degree.Plantar heel pain also leads to several changes in the body and also cause pain, mood, disturbance irritation and mental pressure also altered. However the complication during heel pain are considered to be a major drawback for the men and women in physical activities and his/her social life. The mostly common experienced symptoms during this plater heel pain are not properly wear shoe, sharp shooting pain, tightness in calf muscle, mental disturbance, no longer walk, heaviness in leg. The core of Trigger point formation is at the major endplate. Trauma to the sarcoplasmic reticulum causes an uncontrollable release of calcium ions, which in turn causes sarcomere contraction. Many contracted sarcomeres cause the taut band. 6A so called “energy crisis” forms due to an increase in energy demand of the contractions and a decreased energy supply (lack of ATP) due to constricted vessels.Due to the lack of ATP , a decreased uptake of ca<sup>2+</sup> further continue sustained contractions. As a result there is localized hypoxia and a release of sensitizing substances and cause pain. Under normal conditions, pain from TrPs is mediated by thin myelinated fibers and unmyelinated fibers. Various corrupting and innocuous events. Such as mechanical stimuli or chemical mediators, may excite and sensitize Ad fibers and C fibers and therapy play a role in the development of trigger points. Other theories suggest that there are at least three pathophysiological processes that may be involved in the development and maintenance of

trigger points tenderness. Eliminate or decrease pain.10 Increase range of motion, flexibility and strength.11 Improve sleep , a common problem associated with Myofascial pain. Increase endurance at work and play.Decrease or eliminate medication .General improvements in quality of life and fitness level , increased energy and reduced stress.8 Increase body awareness. To treat Trigger point with Cupping Therapy, heavy sustained tolerable Pressure must be applied to the trigger point with suitable cups. when the therapist should apply Light pressure of suctioning cups is not effective for treating Trigger point, and in fact may increase swelling as the muscle tries to protect itself, leading to increase and more similar pain.In light and moderate to heavy pressure applied to a myofascial trigger point cause the pain to initially increase, but then as the muscle relax the pain will fade. In cups Pressure should be apply slow and release slowly for the best results. Cups pressure should be maintain until there is no change in pain. After applying cups pressure to Trigger points, the relaxed muscles should be properly stretched. Dry Needling is a experienced intervention that uses a thin filiform needle to penetrate the skin and stimulate underlying Myofascial Trigger point, muscular and connective tissue for the management of neuro-musculoskeletal pain and movement impairments.It is a technique used to treat dysfunction in skeletal muscle, fascia, and connective tissue, and to diminish persistent peripheral nociceptive input, and reduce or restore impairments in body structure and functioning, leading to improved activity and participation

## AIM AND OBJECTIVES

### AIM:

To Compare the treatment of Myofascial trigger point Release with Cupping therapy and Dry needling on plantar heel pain.

### OBJECTIVES:

To determine the Myofascial Trigger Point Release with Dry needling in plantar heel pain with the scale of VAS & FFI.

To determine the Myofascial Trigger Point Release with Cupping Therapy in plantar heel pain with the scale of VAS & FFI.

### HYPOTHESIS

#### ALTERNATE HYPOTHESIS:

There will be the reduction in pain and disability when treated with Dry Needling & Cupping therapy technique in patients with plantar heel pain.

There will be significant difference between Myofascial Trigger point release with Cupping Therapy and Dry Needling in reducing pain and improving plantar heel pain patients.

#### NULL HYPOTHESIS:

No reduction in pain and disability when treated with Myofascial Trigger point release with Dry needling & Cupping therapy technique in patients with plantar heel pain.

No difference between Myofascial Trigger point release with Cupping Therapy and Dry Needling in reducing pain and improving plantar heel pain patients.

**Materials and Methods**

The research is an experimental study that will last for four weeks, involving 40 patients with symptomatic plantar pain in hospitals and clinics approved by a college and guide. The inclusion criteria are age between 15-55 years, both male and female, and patients who actively participate in the treatment duration, among others. The patients will be randomly assigned to either a Dry Cupping Therapy or Dry Needling Therapy group. The effectiveness of the two treatments will be compared using the Visual Analogue Scale (VAS) and Foot Function Index (FFI). The research will be conducted using Myofascial Trigger Point Release Technique, with different treatment procedures for each group. Group A will receive cupping therapy while group B will receive dry needling therapy.



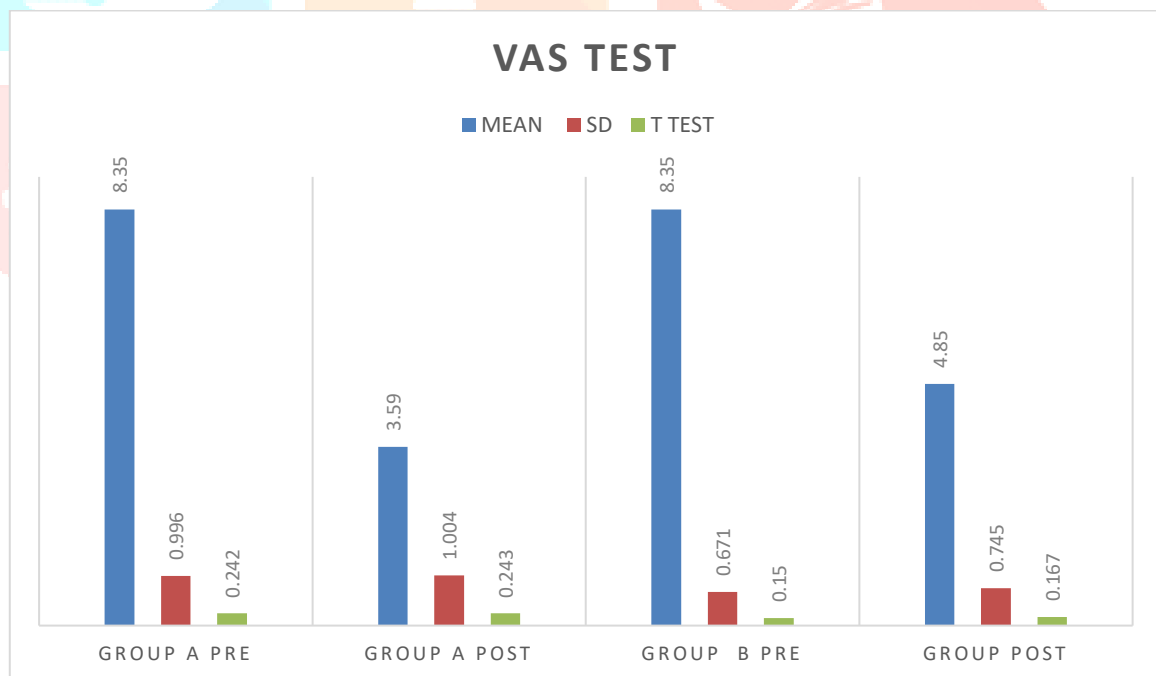
**Result Analysis**

Group Statistics					
	Mode of Treatment	N	Mean	Std. Deviation	Std. Error Mean
AGE	GROUP A	17	34.41	13.942	3.381
	GROUP B	20	32.35	8.158	1.824

**Table.1 (Age group of Group A&B)**

Group Statistics of VAS score						
	Mode of Treatment	N	Mean	Std. Deviation	T TEST	P VALUE
Before Treatment	GROUP A	17	8.35	.996	.242	0.234
	GROUP B	20	8.35	.671	.150	0.345
After Treatment	GROUP A	17	3.59	1.004	.243	P<0.005
	GROUP B	20	4.85	.745	.167	P<0.005

**Table.2 (Data of VAS Score of Group A&B)**



**Table 3. (Data of VAS Test Analysis)**

Group Statistics Foot Function Index						
	Mode of Treatment	N	Mean	Std. Deviation	T TEST	P VALUE
BEFORE TREATMENT	GROUP A	17	85.7033	2.43479	.59052	.466
	GROUP B	20	86.1522	1.13092	.25288	.492
AFTER TREATMENT	GROUP A	17	40.6138	7.52761	1.82571	P<0.005
	GROUP B	20	48.1739	1.48350	.33172	P<0.005

Table 4. (Data of FFI Score of Group A&amp;B)

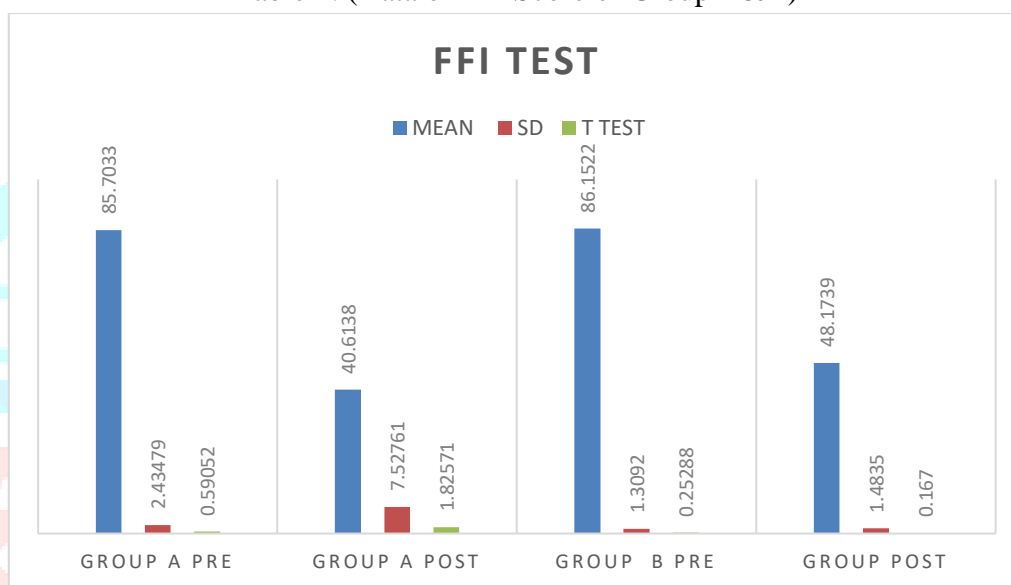


Table 5 (Data of FFI Test Analysis)

## Results

The results are very clear and show that there is indeed an effect of Dry needling therapy more effective than cupping therapy on the plantar heel pain. This table shows the comparison between the pre and post intervention scores shows that there is no biasing of subject as the p-value is not significant as shown. This table shows the comparison the mean difference of group A&B. Hence, Group A is more effective than Group B. This study aimed at studying the effect of Dry needling & Cupping Therapy on Plantar heel pain. This study was designed to see whether there are any effects on plantar heel pain. The results revealed that there is indeed a very good effect of Dry needling therapy rather than cupping therapy during the treatment of plantar heel pain. The men and women in the experimental group of A&B. Group A benefitted in the during of treatment phase of 4 week

## CONCLUSION

Therefore, this study resulted in giving a positive effect of Dry needling and Cupping therapy as this study showed that there is a reduction in pain, changes in mood and enhancement in cognitive function after performing a Dry needling and cupping therapy on plantar heel pain. And as the data analysis also showed on Group A and Group B, henceforth, we can rejecting the null hypothesis and accepting the alternate hypothesis that is there is a more effect of Dry needling therapy on plantar heel pain rather than Cupping therapy.

## Future scope of study:

This study can be further done on large scale on larger sample size including more participants.

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