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A REVIEW LITERAUTRE ON EFFECTIVENESS OF MANUAL THERAPY IN PLANTAR FASCIITS

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ABSTRACT

Introduction: Plantar fasciitis is the result of collagen degeneration of the plantar fascia of the foot. It is a common condition and can be unilateral (or) bilateral. It is the most common cause of infra calcaneal pain. The plantar fascia is a thick fibrous band of connective tissue originating from the medial process of calcaneal tuberosity. It results in pain in the heel and bottom of the foot that is usually most severe with the first step of the day (or) following a period of rest. Numbness, tingling, swelling (or) radiating pain, pain on the bottom of the heel, increased pain after exercise, pain in the arch of foot, pain that is worse in the morning (or) when patient / subject stand after sitting for a long time, a swollen heel, pain that continuous for months, a tight Achilles tendon are the symptoms of plantar fasciitis. Wearing high - arched feet (or) flat feet, wearing shoes that don't support the feet, obese persons, athlete, standing for long time these are the causes of plantar fasciitis. The need of the study is to evaluate whether manual therapy in the treatment of plantar fasciitis represents an effective option in reducing pain, disability and to increase range of motion of ankle joint.

Objectives:

- To find out the effects of manual therapy on pain in plantar fasciitis.
- To review the literature on effectiveness of manual therapy in plantar fasciitis.

Methodology: Source of data collection is from Google scholar and the articles which fulfill the inclusion criteria were taken. And, reviewed it to know the effectiveness of manual therapy in plantar fasciitis. And, to bring the outcome and inclusion criteria.

Conclusion: After, a detail review of literature it is been observed that electrotherapy and physiotherapy treatment, are commonly done in plantar fasciitis.so, after reviewing the literature it feels like further studies should be done on it to make accurate.

Results: Out of 20 articles, 18 articles shows that manual therapy is more effective then other treatments. 2 articles showed that there is no significant difference between manual therapy and other treatments.

Keywords: manual therapy, mobilization, stretches, plantar fasciitis.

INTRODUCTION:-

Plantar fasciitis is the result of collagen degeneration of the plantar fascia of the foot. It is a common condition and can be unilateral (or) bilateral. It is the most common cause of infra calcaneal pain. The plantar fascia is a thick fibrous band of connective tissue originating from the medial process of calcaneal tuberosity. It results in pain in the heel and bottom of the foot that is usually most severe with the first step of the day (or) following a period of rest. Pain is also frequently brought on by bending the foot and toes up towards the shin. "Risk factors" include overuse, such as from long period of standing, an in exercise and obesity. It, also associated with inward rolling of the foot, a tight Achilles tendon, and a sedentary life-style. Plantar fasciitis is a disorder of the insertion site of the ligament on the bone characterized by micro-tears, break down of collagen and sharing. [1]

Numbness, tingling, swelling (or) radiating pain, pain on the bottom of the heel, increased pain after exercise, pain in the arch of foot, pain that is worse in the morning (or) when patient / subject stand after sitting for a long time, a swollen heel, pain that continuous for months, a tight Achilles tendon are the symptoms of plantar fasciitis.[1]

Approximately 15% of all foot complaints coming to the attention of health-care professionals can be attributed to this cause. This condition also accounts for 8% of all injuries in athletes in running-related sports. Hence, it can be said that this condition is common in both sedentary and athletic population. It is attributed to chronic weight bearing and repeated overload of the foot in daily activities or sports. In Indian population, the incidence of such a finding in patients with heel pain is reported to be 59%.[2]

Wearing high - arched feet (or) flat feet, wearing shoes that don't support the feet, obese persons, athlete, standing for long time these are the causes of plantar fasciitis.[1]

X-RAY: shows a piece of bone sticking out (spur) from the heel bone. MRI SCAN: To make sure that another problem, such as stress fracture, is not causing pain.[1]

Medical treatment includes non- steroidal anti- inflammatory drugs and steroid injection. Physiotherapy treatment includes electrotherapy i.e., ultrasound and T.E.N.S. and R.I.C.E. protocol. [23]

The need of the study is to evaluate whether manual therapy in the treatment of plantar fasciitis represents an effective option in reducing pain, disability and to increase range of motion of ankle joint.

The objective of the study includes:

- To find out the effects of manual therapy on pain in plantar fasciitis.
- To review the literature on effectiveness of manual therapy in plantar fasciitis.

METHODOLOGY:-

Inclusion criteria:
Pain on VAS more than three
First step of the day is painful
Functional foot index
Both genders are eligible
Mid age to old age

Exclusion criteria:
Fracture of the foot
Foot flat

METHODOLOGY:
Source of data collected from google scholar, pubmed, scihub.

RESULTS:
Out of 20 articles, 18 articles shows that manual therapy is more effective then other treatments. 2 articles showed that there is no significant difference between manual therapy and other treatments.

CONCLUSION:
After, a detail review of literature it is been observed that electrotherapy and physiotherapy treatment, are commonly done in plantar fasciitis.so, after reviewing the literature it feels like further studies should be done on it to make accurate.

REVIEW OF LITERATURE:-

S NO.	AUTHOR	YEAR & JOURNAL	TITLE	TYPE OF STUDY	CONCLUSION	RESULTS
01.	Janice K. London et.al,	1996 – journal of athletic training	The foot and ankle : An overview of arthrokinematics and selected joint techniques	Comprehensive study	From 30 – 60 days, adhesions develop between the fibrofatty connective tissue and the underlying cartilage surface . as, a result of these tissue changes, joint arthrokinematics might be altered.	Ankle stiffness can also result from immobilization of other joints, such as the knee or hip.[3]
02.	Joshua A. Cleland et.al,	2009- journal of orthopaedic and sports physical therapy	Manual physical therapy and exercise versus electro physical agents and exercise in the management of plantar heel pain	Randomized clinical trial	The results of this study provide evidence that manual physical therapy and exercises is a superior management approach over an electro physical agents and exercise approach in the management of	The results of the study show that both groups demonstrated a improvement over time. However, the results also suggested that the combined – treatment approach consisting of

					individuals with plantar heel pain at both the short and long term follow ups. Further studies should examine the contribution of the different components of the exercise and manual therapy groups.	manual physical therapy and exercise, provides greater clinical benefits in terms of function than an approach using electro physical agents and common exercise in managing patients with plantar heel pain. [4]
03.	David sweeting et.al,	2011- journal of foot and ankle research	The effectiveness of manual stretching in the treatment of plantar heel pain	A systemic review	There is some evidence that plantar fascia stretching is more effective than Achilles tendon stretching alone in the short- term.	The results of this systematic review demonstrate that patients with plantar heel pain who stretch tend to improve over time with regards to both pain and function, but when stretching is compared to other interventions, including sham treatment, no stastically significant benefit was observed.[5]
04.	Romulo Renan-Ordine et.al,	2011- journal of orthopadeic and sports physical therapy	Effectiveness of myofascial trigger point manual therapy combined with a self - stretching protocol for the management of plantar heel pain	A randomized control clinical trial	This study provides evidence that the addition of trigger point release manual therapies to a self – stretching protocol resulted in superior short – term outcomes as compared to a self-stretching program alone in the treatment of patients with plantar heel pain.	Patients who received a combination of self- stretching and trigger release point tissue intervention showed a greater improvement in pressure pain threshold, as compared to those who received only the self- stretching protocol.[6]

05.	Shashwat prakash et.al,	2014- Indian journal of physiotherapy	Effectiveness of manual stretching on pain and disability in patients with plantar fasciitis – A comparative Study	Comparative study	Manual stretching is effective in reducing pain and disability in plantar fasciitis when used in combination with conventional therapy and exercises and therefore can be included in the regular treatment protocol.	Significant changes in score of VAS and were found in both treatment groups. However the results of group receiving manual stretching were more significant. [7]
06.	M.S. Ajimsha et.al,	2014- The Foot	Effectiveness of myofascial release in the management of plantar heel pain	A randomized control trial	This study provides evidence that myofascial release is more effective than control intervention for plantar heel pain.	Patients in the MFR and control group reported a reduction in their pain and disability.[8]
07.	Hiral shah	2014- Indian journal of physiotherapy and occupational therapy	A study on effect of myofascial release in plantar fasciitis	Experimental study	Manual therapy in the form of myofascial release showed overall significant improvement in pain and functional status. Hence it can be concluded that myofascial release is an effective therapeutic option in the treatment of plantar fasciitis.	The results were analyzed by Wilcoxon rank test. Group a showed significant improvement. In group b, results showed significant improvement. in pain. Compared with group b , group a showed significant release.[9]
08.	Shashwat prakash et.al,	2014 – international journey of physiotherapy in patients with plantar fasciitis	Effect of manual therapy versus conventional therapy in patients with plantar fasciitis	Experimental study	The result of this study provide that manual therapy is a superior approach in improving pain and disability in individuals with plantar fasciitis and can also be incorporated in the regular treatment regime of the same.	The results of this study showed that manual therapy is more effective in improving pain and disability in patients with plantar fasciitis.[10]
09.	Anand Hegannavar et.al,	2015 – Indian journal of physiotherapy and occupation therapy	Effectiveness of subtalar joint mobilization in plantar heel pain	Experimental study	Manual therapy intervention i.e. subtalar joint mobilization with stretching and ultrasound is more effective in improving pain (VAS) and foot	Fourteen subjects, satisfied the eligibility criteria, agreed to participate and were allotted into the mobilization

					function index score in subjects with plantar heel pain.	group. Significant difference was found in the post value of foot function index between two groups.[11]
10.	Anant shashua et.al,	2015 – journal of orthopedics and sports physical therapy	The effect of ankle and midfoot mobilization on plantar fasciitis	A single – blind randomized controlled trial	The addition of ankle and foot joint mobilization aimed at improving ankle dorsiflexion range of motion is not more effective than stretching and ultrasound alone in treating plantar fascittis. The association between limited ankle dorsiflexion and plantar flexion is most probably due to soft tissue limitations, not the joints.	No significant difference between groups in any of the outcomes. Both groups showed a significant difference in the numeric pain rating scale and lower extremity function scale. Both , groups significantly improved in dorsiflexion range of motion, with no difference between groups.[12]
11.	Imran Ghafoor et.al,	2016 – Rawal medical journal	Effectiveness of routine physical therapy with and without manual therapy in treatment of plantar fasciitis	Experimental study	The result of this study provides evidence that regular physiotherapy with manual therapy is a superior management approach in the management of individuals with plantar fasciitis.	Sixty patients signed the consent form and were randomized into regular physiotherapy with manual therapy and regular physiotherapy groups. The regular physiotherapy with manual therapy group showed clinically expressive and substantial progress than regular physiotherapy [13]
12.	Imran Ghafoor et.al,	2016 – J liaquat uni med health sci	Effectiveness of manual physical therapy in treatment of plantar fasciopathy	Observational descriptive study	The result of the study showed that manual physical therapy is an effective treatment	Thirty eligibility patients signed in the consent form. The manual physical

					approach in treatment of plantar fasciitis.	therapy group showed clinically significant and sensitive progress in term of pain and function over the other group i.e., ultrasound and exercises.[14]
13.	Hesham A Mohamed	2016- The Egyptian orthopaedic journal	Effectiveness of Achilles tendon stretching for the treatment of chronic plantar fasciitis	Experimental study	This study provides an effective, inexpensive and straight forward treatment protocol for the chronic plantar fasciitis.	The American foot and ankle society scale outcome measures also revealed significant improvement in patients who performed Achilles – tendon stretching exercise regularly.[15]
14.	Shubhangi P. patil et.al,	2016- international journal of therapies and rehabilitation research	Effectiveness of myofascial release technique and taping technique on pain and disability in patients with chronic plantar fasciitis	Randomized control trial	The findings of the study indicate a potential benefit after getting myofascial release technique in patients with chronic plantar fasciitis.	The data was analysed using statistical test which was performed using spss 17 software package. Result revealed significant improvement for all outcome measures in each group. Additionally significantly greater improvements were defected in favor of the myofascial release group.[16]

15.	John J. Mischke et.al,	2017- journal of manual and manipulative therapy	The symptomatic and functional effects of manual physical therapy on plantar heel pain	A systematic review	The review suggests that manual therapy is effective in the treatment of plantar heel pain; however further research is needed to validate these findings given the preponderance of low quality studies.	Eight articles were selected for the final review and underwent PEDro scale assessment for quality. These two studies showed stastically greater symptomatic and functional outcomes in the manual therapy group.[17]
16.	James dunning et.al,	2018 – journal plos one	Electrical dry needling as an adjunct to exercise, manual therapy and ultrasound for plantar fasciitis	Multi- center randomized clinical trial	The results of the current randomized clinical trial demonstrated that patients with plantar fasciitis who received manual therapy, exercise and ultrasound plus electrical dry needling experienced significantly improvements in first- step morning intensity, resting heel pain, pain during activity, function, related-disability and foot health- related quality of life.	219 consecutive patients with plantar fasciitis were screened eligibility criteria , 111satisified all the inclusion criteria and agreed to participate , and were randomly allocated into manual therapy, exercise , ultrasound plus electrical dry needling group. There was no significant difference between the groups.[18]
17.	John J. Fraser	2018 – journal of manual and manipulative therapy	Does manual therapy improve pain and function in patients with plantar fasciitis	Randomized control trial	Manual therapy is clearly associated with improved function and may be associated with pain reduction in plantar fasciitis patient.	Seven randomized control trials were selected that employed manual therapy as a primary independent variable and pain and function as dependent of variables. Inclusion of manual therapy in treatment yielded greater improvement in

						function and algometery , when compared to interventions such as stretching, strengthening or modalities.[19]
18.	Suthasinee thong –on et.al,	2019 – Ann rehabil med	Effects of strengthening and stretching exercise on the temporospatial gait parameters in patients with plantar fasciitis	A randomized control trial	Both strengthening and stretching exercise programs significantly reduced pain and improved gait in patients with plantar fasciitis.	For intra- group comparisons, there were significant difference in worst pain, morning pain, cadence, and stride time among the assessment in both groups. For inter- group comparisons, there were no significant difference in all parameters. [20]
19.	Hemlata et.al,	2019 – physiotherapy and occupational therapy journal	Comparison of the effectiveness of myofascial release technique and stretching exercise on plantar fasciitis	Comparative study	The present study concluded that myofascial release is better than stretching exercises in 4 weeks intervention patients with plantar fasciitis.	Myofascial release technique by comparing showed significant improvement in plantar fasciitis in comparison to group b who was subjected to stretching exercises.[21]
20.	Heni ishwarlal tandel et.al,	2021- international journal of science and health care journal	Effect of myofascial release technique in plantar fasciitis on pain and function- An evidence based study	Evidence based study	Based on the analysis of the 10 articles, it can be concluded that myofascial release is an effective treatment regimen in individuals with plantar fasciitis.	10 studies were reviewed from which 7 studies concluded that myofascial release is more effective than a control group receiving conventional therapy. And, remaining 3 studies highlighted that myofascial release is equally effective in

						alternate therapies.[22]

CONCLUSION:-

After, a detail review of literature it is been observed that electrotherapy and physiotherapy treatment, are commonly done in plantar fasciitis.so, after reviewing the literature feels like further studies should be done to give accurate statement.

RESULTS:-

Out of 20 articles, 18 articles shows that manual therapy is more effective then other treatments. 2 articles showed that there is no significant difference between manual therapy and other treatments.

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