

Original Article

PERCEPTION OF PHYSICAL THERAPIST AND ORTHOPEDICS IN MANAGEMENT OF PLANTAR FASCIITIS

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Abstract

Background: Planter fasciitis is the degenerative disease of the planter fascia that affects up to 10 % of the general population. Around 2 million people in the United States were reported to seek treatment for plantar fasciitis annually. According to the perception of physiotherapists and orthopedics, Orthopaedics perceive that short-term pain relief is easily achievable. Physiotherapists perceive that their treatment is more effective for long term pain relief.

Objectives: To find out the perception of physical therapist and orthopedics in management of plantar fasciitis

Methodology: Cross sectional survey was conducted and total of 249 participants were included. 75 were orthopedic surgeons and 174 were physical therapists with at least one year clinical experience. Data was collected from orthopedic surgeons and physiotherapists in Al Nafees Medical Hospital, National institute of rehabilitation Medicine (NIRM), Armed Forces Institute of Rehabilitation Sciences (AFIRM), Combined Military Hospital (CMH) and Benazir Bhutto Hospital (BBH) situated in Rawalpindi, Islamabad and wah cant through self structured questionnaire. Results were presented in mean, frequency and percentage.

Results: Results showed that female patients are more prone to plantar fasciitis and it is more common in population between 40 to 60 years of age. Patients came across with acute plantar fasciitis and diagnosed by area of pain. Physiotherapists treat patient with stretching exercises and ultrasound therapy while orthopedic surgeons treat patients with NSAIDS, steroid injections and shoe modification. Orthopedic treatment is more effective for short term pain relief. Physiotherapy treatment is effective for long term effects.

Conclusion: Orthopedics and physiotherapists perceive that Orthopedic treatment is more effective for short term pain relief. Physiotherapy treatment is effective for long term effects.

Keywords: Conventional physiotherapy plantar, orthopedic procedures for plantar fasciitis, Plantar fasciitis

Introduction

A degenerative syndrome characterized by pain in heel and tenderness at the point of insertion of plantar fascia in to the calcaneus is called Plantar Fasciitis. ⁽¹⁾ It affects up to 10 % of the general population. ⁽²⁻³⁾ Around 1 in 10 individuals with heel pain and about 2000,000 Americans are influenced every year. ⁽⁴⁻⁵⁾ 2 million people in the United States were reported to seek treatment for plantar fasciitis annually. This accounts for 11-15% of individuals seeking professional help regarding heel or foot pain. ⁽⁶⁻⁷⁾ The most common risk factors associated with plantar fasciitis are obesity, prolonged standing, weight bearing in turn limitation in ankle flexion. Calcaneal spur may be cause of heel pain in non-athletic population. Excessive pronation is associated with repetitive micro trauma in runners so incidence of plantar fasciitis is seen ⁽⁸⁻⁹⁾ The pain is more terrible in the morning when taking first few steps, after delayed sitting, or toward the start of a workout. ⁽¹⁰⁾ Patients with plantar heel condition regularly report that pain is along the medial border of the plantar fascia to its insertion at the medial tuberosity of the calcaneus. ⁽¹¹⁾ It is reported that patients with chronic plantar fasciitis feel dull pain that is constant and increases in intensity after prolong rest period. Diagnosis of plantar fasciitis is based on patient history, clinical findings, presentation and level of

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pain. Another study showed that diagnosis of plantar fasciitis is also based on risk factors. ⁽¹²⁾ Diagnostic tests for plantar fasciitis includes windless test, longitudinal arch angle, passive and active talocrural joint dorsiflexion ROM. ⁽¹³⁾ The preferred treatment is physiotherapy, with the aim of suppressing pain and restoring the mechanical function of the plantar fascia for gait improvement. It includes anterior foot stretching, posterior leg muscle stretching, tapping, achilles tendon and plantar fascia stretching, shoe modification, electro physical therapy and night splints. Extracorporeal shockwave therapy is very responsive in treating plantar fasciitis and shows no recurrence for at least 1 year. ⁽¹⁴⁾ Possible surgical treatment includes shoe inserts, anti inflammatory drugs (ibuprofen), steroids injection, fasciotomy and fascia release. Surgery for treating plantar fasciitis is effective and severity of pain is evident to be decreased on VAS in more than half of patients. Surgery showed improved results in patients that had

symptoms of shorter duration. Patrick wheeler and co workers suggested that surgery is a good treatment option for those patients who do not respond to conservative treatment. ⁽¹⁵⁾ The aim of this study is to find out the perception of physical therapist and orthopedics in management of plantar fasciitis

Methodology

Cross sectional survey was conducted and total 249 participants were included (75 orthopaedics and 174 physical therapists with at least one year clinical experience). Physiotherapists and orthopaedic surgeons who are not in practice were excluded. Data was collected from orthopaedic surgeons and physiotherapists in Al Nafees Medical Hospital, National institute of rehabilitation Medicine (NIRM), Armed Forces Institute of Rehabilitation Sciences (AFIRM), Combined Military Hospital (CMH) and Benazir Bhutto Hospital (BBH) situated in Rawalpindi, Islamabad and Wah Cantt. through self structured questionnaire. Study was initiated after approval from advanced study and research committee (ASRC) of Isra Institute of Rehabilitation Sciences, Isra University, Islamabad Campus.

Results

Distribution of orthopedics (n=75, 30.1%) and physiotherapists (n=174, 69.8%) (Demographical distribution) is presented in graphical form. Orthopedics and physiotherapists distribution according to their respective practice time period is entailed in table 1. Table 2 presents perception of orthopedics and physiotherapists by frequency distribution of patients according to gender, age group, diagnostic consideration, severity of plantar fasciitis, treatment modalities, and recurrence rate and outcome measures. Both orthopedics and physiotherapists perceived that females (n=49, n=128) were presented more as compared to males (n=26, n=46) with plantar fasciitis respectively. Patients with age range 40-60 mostly present with this condition. Mostly orthopedics make diagnosis of PF on basis of pain (n=25) area while physiotherapists make clinical decisions on pain area (n=39), symptoms (n=58) and windlass test (n=72) for diagnosing PF. Clinicians perceive that patient with acute symptoms present to orthopedics, while patients with both acute and chronic conditions are

presented for physiotherapy consultation. Commonly opted treatment by orthopedics were shoe modification (n=18), NSAIDs (n=9), insoles/pads (n=9) and rest (n=11). Physiotherapist mostly adopt stretching exercises of tightened musculature (n=42) and shoe modification (n=43) for relieving pain of plantar fasciitis. Both physiotherapists and orthopedics perceive that recurrence of plantar fasciitis is seen mostly after one year (n=91, n=47) respectively. Patient reported symptoms were considered by both clinician for documenting plantar fasciitis (orthopedics n=55, physiotherapists n=122).

Table 1: Years of experience

Years of experience	Profession	
	Orthopedic	Physical Therapist
<1 year	5 (6.6%)	35 (20.1%)
2-10 years	34 (45.3%)	102 (58.6%)
>10 years	36 (48%)	37 (21.2%)
Total	75 (30.1%)	174 (69.8%)

Discussion

Up to 11 to 15% adults present to foot and ankle specialists with complain of plantar heel pain. Plantar fasciitis refers to the symptoms produced by the plantar fascia with presence of absence of heel spur. ¹ A study was conducted to find out the perception of orthopedic surgeons and physiotherapists in management of plantar fasciitis. 74 orthopedic surgeons and 174 physiotherapists gave their perception about plantar fasciitis, its diagnosis, severity, treatment modalities, age and gender of patients commonly visiting with this condition. Both physiotherapist and orthopedics came across with female patients. Predominance of males with plantar fasciitis has been seen by Marlene De Maio but he also concluded that it was more due to occupational reasons. Another study shows 55% male pre dominance.⁽⁷⁾ The fact may be that in current situation more females presented to the clinic. A Barredo point out that plantar fasciitis is not considered to be biased by male and female. Barredo and M.Ismail observed that condition mostly occurs in between ages of 40 and 60. ⁽¹⁶⁻¹⁷⁾

Radford described that adults with age older than 65 years suffers it mostly. ⁽¹⁸⁾ According to current study, patients presented to orthopedics and physiotherapists were mostly of age between 40 and 60. Diagnosis of plantar fasciitis is mostly done on the clinical signs i.e. pain while weight bearing after

rest and pain that lessens with initial activity. ⁽¹⁹⁻²⁰⁾ Current study also concluded that both orthopedics and physiotherapists diagnose plantar fasciitis by symptoms and area of pain. Current study stated that

acute and chronic cases presented mostly to physiotherapists. It might be the fact that patients prefer conservative upon surgical treatment.

Table 2: Demographic distribution patients

		Profession	
		Orthopedic	Physical Therapist
Patient gender	Male	26 (34.6%)	46 (26.4%)
	Female	49 (65.35)	128 (73.5%)
Patient's age group	20-40	19 (25.3%)	69 (39.6%)
	40-60	56 (74.65)	105 (60.3%)
Diagnosis	Area of pain	25 (33.3%)	39 (22.4%)
	Pain duration	9 (12%)	5 (2.8%)
	Symptoms	31 (41.3%)	58 (33.3%)
Severity of plantar fasciitis	Windlass test	10 (13.3%)	72 (41.3%)
	Acute	46 (61.3%)	87 (50%)
Treatment modalities	Chronic	29 (38.6%)	87 (50%)
	Shoe modification	18 (24%)	43 (24.7%)
	Steroid injection	6 (8%)	0
	NSAIDs	9 (12%)	0
	Calf stretching	0	42 (24.1%)
	Intrinsic muscle strengthening	0	26 (14.9%)
	Soft tissue massage	1 (1.3%)	33 (18.9%)
	Cryotherapy	4 (5.3%)	21 (12%)
	Ultrasound	10 (13.3%)	9 (5.1%)
	Strapping / taping	7 (9.3%)	0
	Foot pad / insoles	9 (12%)	0
	Rest	11 (14.6%)	0
Recurrence rate	No recurrence	11 (14.6%)	42 (24.1%)
	After Few months	17 (22.6%)	41 (23.5%)
	After one year	47 (62.6%)	91 (52.2%)
Outcome measure	Patient reported symptoms	55 (73.3%)	122 (70.1%)
	VAS	8 (10.6%)	23 (13.2%)
	Functional Activities	5 (6.6%)	17 (9.7%)
	Gait	7 (9.3%)	12 (6.8%)

No such study has been done before on such topic. Current study showed that physiotherapists perceived to opt stretching exercises of tightened musculature, icing and shoe modification for relieving PF. Although orthopedic surgeons showed interest in shoe modification, NSAIDs, steroid injections and ultrasound for PF. Recurrence rate of PF was seen more by physiotherapists as compared to surgeons. Fact was might be that physiotherapy is temporary treatment option while surgery manages the condition almost permanently. According to previous studies multiple treatment options range from conservative to surgical interventions, although studies of the effectiveness of each modality have had conflicting results. Step wise approach is generally practiced for advocating treatment of plantar fasciitis and up to 90% of cases are successfully managed by preferring conservative therapy options. American College of

Foot and Ankle Surgeons in 2010 proposed a clinical guide line and recommends conservative treatment with NSAIDs, stretching exercises and prefabricated orthosis for initial management of plantar heel pain. Clinical response usually comes within 6 weeks after initiation of treatment. Educate the patient that it may take approximately 6 months to resolve completely. If treatment is noted, regime is continued until complete resolution of symptoms, otherwise patient is referred to foot and ankle surgeon for further consideration. ⁽²¹⁾ Neufeld and colleagues in their study concluded that 90% of PF patients get treated by non-surgical procedures until unless patients with persistent symptoms for 6 – 12 months. ⁽²²⁾ According to them approximately 62% visits were made to the primary health care out of which 31% were to the orthopedics with 1% suffering from PF. However Daniel and Susan commented that conflict

remains in treating plantar fasciitis by conservative and surgical treatment. ⁽²³⁾

Conclusion

Both orthopaedics and physiotherapists perceive that acute plantar fasciitis is treated more effectively. Orthopaedics perceive that short term pain relief is easily achievable. Physiotherapists perceive that their treatment is more effective for long term pain relief. Orthopaedics perceive that plantar fasciitis is treated effectively by NSAIDs and steroid injections. Physiotherapists perceive that plantar fasciitis is treated effectively by calf stretching, strengthening, cryotherapy and sort tissue massage. Both orthopaedics and physiotherapists perceive that shoe modification is effective in treating plantar fasciitis.

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