

Prevalence of Plantar Fasciitis Among Post Graduate Medical Students

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Abstract

Background: One of the Commonest cause of heel pain is Plantar fasciitis. Prevalence of which is less studied. Through this study, we want estimate the prevalence of plantar fasciitis among postgraduate residents in Dhiraj hospital and compared it with the general population.

Methods: Observational study in which medical students were examined clinically and preformed questionnaire was given to them comprising of questions regarding routine day- to-day activities which were answered by the postgraduate students. Also they were asked to use an application in their mobile phones to track their number of steps; which was later analyzed

Results: In our study post-graduate medical students were found to have slightly higher prevalence of plantar fasciitis i. e. 12.08%. As compared to general population as stated in previous studies.

Surgical students had a higher rate as compared to non- Surgical students.

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Introduction

Plantar fasciitis is a degenerative condition involving plantar fascia which results from repeated trauma at its origin on the calcaneus¹. Although a misnomer, this condition is sometimes referred to as 'heel spurs' by the general population².

It typically presents as sharp pain which is localized at the anterior aspect of the calcaneus. Many a times it is asymptomatic. Individuals may have bony heel spurs, but many patients with Plantar fasciitis do not have a spur³. Plantar fasciitis is a common cause of heel pain, affecting 10% of the

general population. Men, usually between ages 40 and 70, are affected more than women⁴.

The pain is worst early in the morning and often improves with activity. Patients

mostly complaints of pain in the sole or heel during weight-bearing which is relieved once it is stopped⁵. On examination, tenderness over the medial aspect of the calcaneus is marked.

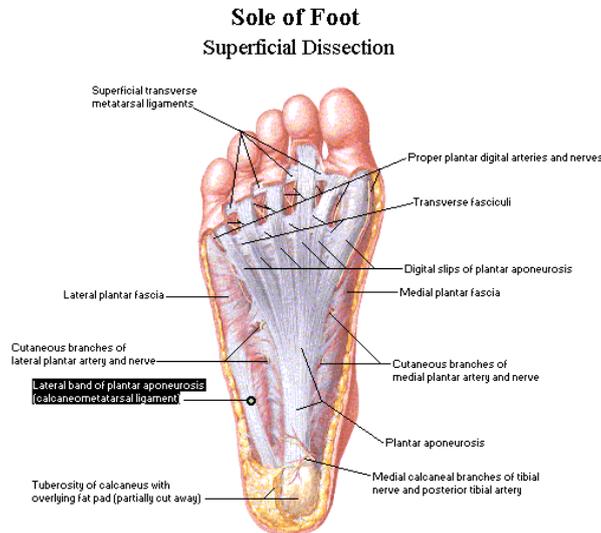


Figure 1: Anatomy: Soft Tissue

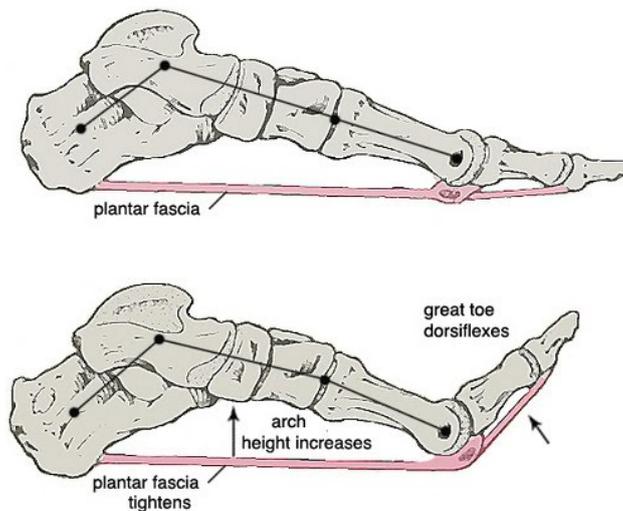


Figure 2: Dynamics: Planter fascia

Diagnosis is based on clinical history and as a result of the patient’s physical examination. Pain associated with Plantar fasciitis may be throbbing, shearing, or piercing, especially with the first few steps in the morning or after periods of inactivity⁶.

Plantar fasciitis is almost always treated conservatively. Modalities of therapy

include medical and physical therapy. Medical therapy includes drugs like NSAIDs, injecting steroids locally⁷. Physiotherapy methods include taping, stretching, night splints, shoe inserts, thermal modalities, ultrasonographic therapy, laser therapy, and custom foot orthosis, etc. Conservative treatment is almost always successful if done right;

most patients tend to respond well after treatment.

It is not unusual to find postgraduate residents especially clinical residents to develop plantar fasciitis like heel pain. This study intends to calculate the prevalence of plantar fasciitis in such residents and to know whether there is an increased prevalence of plantar fasciitis in comparison to the general population.

Etiology

The causes of plantar fasciitis are multifactorial. The main cause is best postulated to be caused by repetitive strain injury to the ligaments of the sole. Most common causes include obesity, an occupation requiring prolonged standing or walking and heel spurs.

Material and Method

This is an Observational study which was conducted at Dhiraj hospital among Postgraduate medical students during 2019.

A Total of 182 candidates participated voluntarily. Candidates were explained about study type and the questionnaire was answered after getting consent. On basis of the questionnaire, and clinical examination candidates who were diagnosed with planter Facitis had were selected for further evaluation.

Average walking steps were noted according to the fitness tracking device or an application in their mobile phones.

At the end of the study treatment modalities were advised to patients based on severity which included- Non- pharmacological like soft slippers, contrast bath, physiotherapy, and pharmacological like analgesics

Results:

Among these 182 students ,80 were from surgical branch and 102 were from non surgical branch.

Out of 182 students, 22 were diagnosed with Planter Facitis.

Table 1: Prevalence

Gender	Plantar Fasciitis-present	Plantar Fasciitis-absent	Total
Male	12	84	96
Female	10	76	86
Total	22	160	182

Table 2: Comparison among Surgical and Non- Surgical Residents

Branch	Affected Students	Total
Surgical Residents	16	80
Non-Surgical Residents	6	102
Total	22	182

Out of 22 students who were diagnosed to have plantar fasciitis; 16 out of 80 candidates were from a surgical branch and 6 out of 102 students were from a non-surgical field.

Also as per the information provided by students in the questionnaire the Average walking steps for surgical residents was 8000 steps per day and 4000-5000 steps per day for non-surgical residents. This was

cross- checked in their fitness tracking device by the investigator.

Discussion & Conclusion

Almost all residents were using well cushioned footwear so no correlation could be established between type of footwear and planter facitis.

However, it was noted that out of the 182 participants that were studied 22 (12.08%)

had plantar fasciitis which is slightly higher as compared to the general population.

It is interesting to note that a significantly higher prevalence of plantar fasciitis was noted in surgical residents that is 16/80 as compared to non surgical residents that is 6/102. This may be attributed to higher mobility (8000 steps per day) in surgical residents.

Limitations-

- Small sample size
- Validity and Precision of the fitness device used to count steps.

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