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# Study on the Prevalence of Heel Pain among School and College Teachers in and around Kochi

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**Abstract:** Plantar heel pain (PHP) is a common, painful condition affecting the heel. Heel pain is when no specific disease or structural cause can be identified to explain the pain. It causes numerous sick days, functional impairment and early retirement. It is also difficult in terms of medical expenses, personal distress and job loss. So, it was essential to conduct a survey on the prevalence of PHP related to occupation and provide the effective means to manage and control it, thereby improving their quality of life

**Aim:** To find the prevalence of heel pain among school and college teachers in and around Kochi.

**Methodology:** A total of 110 teachers are participated in this study using conventional sampling. The total duration of study is 3 months. The outcome measures were taken for the study based on the FADI questionnaire**.**

**Result:** A total of 110 teachers participated in this study. Teachers' ages ranged from 25 to 65 years. The mean age was 41.61 ± 8.9 years. Of the 110 participants who took part in this survey, 51 reported mild heel pain (46%), 36 reported moderate heel pain (33%), and 23 reported severe heel pain (21%).

**Conclusion:** The study reveals there is a high prevalence of PHP pain among teachers. The various demographic factors contributing to PHP were advancing age, female gender and BMI. Increasing BMI and frequent standing do not reduce heel pain. Factors like occupation, work duration, and age have a significant effect in PHP. The most affected teachers were found to be LP teachers. Years of experience and continued working hours were found to be the other major occupational risk factors. They should be advised on preventive measures to avoid further complications.

**Keywords:** Plantar heel pain; Prevalence; Teachers; Occupational risk factors; Foot ankle disability index (FADI); Body mass index (BMI); Cross-sectional study.

## INTRODUCTION

The heel is a vital part of the foot, providing support and stability during activities like walking and standing. It consists of bones, joints, ligaments, and muscle attachments, including the medial and lateral talocalcaneal ligaments, and the long and short plantar ligaments. Common treatment options include strapping, insoles heel pads, injections and surgery. Plantar heel pain can arise from several causes, including calcaneal stress fractures. These typically present as progressively worsening pain after activities, along with bursa inflammation between the calcaneus and the Achilles tendon. Heel spur hurts when you walk and stand for a long time. The pathophysiology of calcaneal spurs is not well understood. Approximately 50% of people with plantar fasciitis have heel spurs

## METHODOLOGY

***Study Design:*** *cross-sectional study*

***Sampling method:*** *convenient sampling*

***Study Settings:***
Medical Trust Institute of Medical Science, Kochi
Govt: HSS Karingachira, Trippunithura
NSS HSS Trippunithura
LMS HSS Edapally
Govt: LP school, Kaloor
Devaswom Board Central School, Pookattupadi

***Sample size:*** 110

***Total Duration of study:*** 3 months

***Inclusion criteria:***
Age: 25-65 years
Occupation: currently employed as a teacher in schools and colleges
Work duration: minimum work experience of 1 year
Heel pain: heel pain experienced for at least 1 month

***Exclusion criteria:***
Systemic conditions such as diabetes, rheumatoid arthritis or gout
Neurological conditions such as neuroma, tarsal tunnel syndrome, lumbar radiculopathy
Congenital conditions such as club foot, CTEV
Pregnancy

## PROCEDURE

The survey was conducted between June 29, 2025 to September 30, 2025, among school teachers. A total of 110 participants were selected based on the inclusion criteria for the study. Consent from the Scientific Research Council (SRC) and the head of the department was obtained before the data collection. Individual consent was obtained from all teachers through google form. The Google form was developed in the English language and was sent to the participants via WhatsApp. The purpose of the study was explained to all participants. All their queries and concerns were addressed before administering the questionnaire. The Google form was sent, which included demographic data and the FADI questionnaire. The Google form consists of 2 parts: The first part includes name, Height, age, date of assessment, weight, and year of experience. The second part included the questionnaire. Once the responses of all the participants were collected, it was analysed and interpreted

*Outcome Measurements*

FADI [foot ankle disability index] questionnaire.

FADI Questionnaire, as assess functional limitation related to foot and ankle condition. This described in 1999 by martin et al. The questionnaire consists of 22 questions and each of the 34 scoring from 0 to 4.

## STATISTICAL ANALYSIS

| SL NO | BMI | CLASSIFICATION | HEEL PAIN | % |
|---|---|---|---|---|
| 1 | <18.5 | Underweight | 5 | 4.5% |
| 2 | 18.5-24.9 | Normal | 53 | 48.1% |
| 3 | 25-29.9 | Overweight | 50 | 45.4% |
| 4 | >30 | Obese | 2 | 1.8% |

**Classification based on BMI**

| AGE | TOTAL NUMBER | PERCENTAGE |
|---|---|---|
| 25-35 | 24 | 21.8% |
| 36-50 | 18 | 16.3% |
| 51-65 | 69 | 62.7% |

**Classification based on age**

| SL NO | GENDER | TOTAL NO | PERCENTAGE |
|---|---|---|---|
| 1 | MALE | 87 | 79% |
| 2 | FEMALE | 23 | 21% |

**Classification based on gender**

| STANDING DURATION | NUMBER OF PEOPLE | PERCENTAGE |
|---|---|---|
| 0-2 | 68 | 61.81% |
| 2-4 | 29 | 26.36% |
| 4-6 | 13 | 11.81% |

**Classification based on standing duration**

## DISCUSSION

Plantar heel pain (PHP) is a frequent problem of middle-aged and elderly people. Common causes of PHP are plantar fasciitis, which may lead to pain and numbness of the nerve. Obesity, heel pad thickness, heel arch height and foot type are the main extrinsic factors for heel pain. The predicted risk factors are age, gender, BMI, year of experience, and work duration. The study aimed to find the prevalence of heel pain among school and college teachers in Kochi. From various schools in Kochi, 110 participants were selected based on the inclusion criteria. The number of male teachers was 23 and the number of female teachers were 87. From that, the prevalence of PHP is 46% of mild, 33% moderate, 21% severe heel pain. The FADI questionnaire was used in this study. It assesses functional limitations related to foot and ankle conditions. The questionnaire was first described in 1999 by Martin et al. The questionnaire consists of 22 questions and each of the 34 is scored from 0-5. Considering the age of the participants, the mean age was found to be 41.61+/-8.9 years. The survey shows teachers in the age category 25-65. Considering gender, females are more prevalent than males, with a prevalence rate of 79%. In a study conducted by Yousef Alrashidi on PHP and its associated factors in Saudi Arabian school teachers, they found that being older and female gender were significantly associated with PHP. Prevalence of PHP based on BMI was maximum (48%) in BMI<18.5 and minimum (2%) in BMI≥30, which shows increasing BMI has no significant effect in PHP among school and college teachers. Prevalence of PHP based on standing duration 61.81% teachers standing 0-2hours, 26.36% teacher's standing2-4hours, and 11.81% of teachers standing 4- 6 hours.

## LIMITATIONS

This study was carried out in a particular school, hence all teachers participated

A tiny sample size.

Change in footwear type and working conditions.

Time constraints may have an impact on data collection

## CONCLUSION

The study reveals there is a high prevalence of PHP pain among teachers. The various demographic factors contributing to PHP were advancing age, female gender and BMI. Increasing BMI and frequent standing do not reduce heel pain. Factors like occupation, work duration, and age have a significant effect on PHP. The most affected teachers were found to be LP teachers. Years of experience and continued working hours were found to be the other major occupational risk factors. They should be advised on preventive measures to avoid further complications

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