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Original Article

Prevalence of Plantar Fasciitis Among Housewives: A Survey-Based Study

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ABSTRACT

Background: Plantar fasciitis is a common condition characterized by pain and inflammation of the plantar fascia, particularly affecting individuals engaged in prolonged standing and walking activities. Housewives represent a significant demographic at risk for this condition due to their extensive household responsibilities. Despite its prevalence, there is limited research focusing specifically on housewives.

Objective: The aim of this study was to determine the prevalence of plantar fasciitis among housewives, and to analyze associated demographic and study variables, including age, living area, educational status, onset of pain, exercise involvement, footwear usage, pain severity, and associated diagnoses.

Methods: A retrospective descriptive survey design was employed, with a purposive sample of 127 housewives aged 25-60 years. Participants were recruited from clinics, online platforms for podiatry patients, and community centers. Data were collected using a comprehensive, researcher-developed questionnaire that included sections on demographics, pain characteristics, duration of symptoms, impact on daily activities, and treatment methods used. Pain intensity was measured using the Visual Analog Scale (VAS) and the Numerical Rating Scale (NRS). Data were analyzed using SPSS version 25. Descriptive statistics summarized demographic data, pain scores, and the prevalence of specific symptoms. Inferential statistics, including chi-square tests and logistic regression, were used to explore correlations between various treatment methods and outcomes, and to identify potential risk factors for plantar fasciitis.

Results: The prevalence of plantar fasciitis among the study population was 4.72%. The most vulnerable age group was 35-44 years, comprising 33.1% of the participants. A majority of the participants were from urban areas (58.3%) and had completed primary education (32.3%). Regarding the foot affected, 44.9% reported issues with their right foot, 34.6% with their left foot, and 20.5% experienced bilateral symptoms. Gradual onset of pain was reported by 74.8% of the participants. Exercise involvement was low, with 78.0% not engaging in any form of exercise. The majority used saddle-type footwear (89.8%). Pain severity was moderate for 59.8% of the participants, severe for 25.2%, and mild for 15.0%. Associated diagnoses included heel spurs in 23.6% and Achilles tendinopathy in 11.8% of the participants.

Conclusion: This study highlighted the significant prevalence of plantar fasciitis among housewives, particularly in urban areas and within the 35-44 age group. The findings underscore the need for early diagnosis, preventive measures, and tailored interventions. Promoting physical activity and the use of appropriate footwear could potentially reduce the prevalence and impact of plantar fasciitis in this demographic.

INTRODUCTION

Plantar fasciitis is a common condition characterized by pain and inflammation of the plantar fascia, a thick band of tissue that runs across the bottom of the foot and connects the heel bone to the toes. This condition is prevalent worldwide, affecting millions of individuals, and has a significant impact on quality of life. Globally, the prevalence of plantar fasciitis ranges from 3.6% to 7% in the general population, making it one of the most frequent causes of heel pain. In Pakistan, similar trends are observed, with a notable number of individuals, particularly those involved in occupations requiring prolonged standing or walking, reporting symptoms consistent with plantar fasciitis (1-3).

Epidemiologically, plantar fasciitis affects both genders and all age groups but is most commonly seen in adults between the ages of 40 and 60. Certain risk factors increase the likelihood of developing this condition, including obesity, prolonged standing or walking, high-impact sports, and biomechanical issues such as flat feet or high arches. These risk factors are particularly relevant for housewives, who often engage in extensive household

chores that require prolonged standing and walking, putting them at increased risk for plantar fasciitis.

The pathophysiology of plantar fasciitis involves repetitive microtrauma to the plantar fascia, leading to inflammation, degeneration, and subsequent pain. The condition is often associated with a gradual onset of heel pain, which is typically worse in the morning or after periods of inactivity. The pain may decrease with activity but can worsen after prolonged standing or walking (4-7).

Diagnosing plantar fasciitis primarily involves a clinical examination, with patients reporting characteristic symptoms such as heel pain and tenderness along the plantar fascia. Differential diagnoses to consider include conditions like Achilles tendinopathy, heel spurs, tarsal tunnel syndrome, and stress fractures. Imaging studies, such as ultrasound or MRI, can be useful in confirming the diagnosis and ruling out other potential causes of heel pain.

Routine management of plantar fasciitis includes conservative treatments aimed at reducing pain and inflammation, improving flexibility, and addressing any underlying biomechanical issues. These treatments often involve rest, ice application, nonsteroidal anti-inflammatory drugs (NSAIDs), physical therapy, stretching exercises, and the use of orthotic devices. In more severe or persistent cases, corticosteroid injections or extracorporeal shock wave therapy may be considered. Surgical intervention is typically reserved for cases that do not respond to conservative management over an extended period (8-11).

Surveying housewives for the prevalence of plantar fasciitis is essential for several reasons. Housewives often engage in prolonged standing and walking during their daily activities, making them a high-risk group for developing this condition. Additionally, housewives may not always seek medical attention for their symptoms, leading to underreporting and a lack of data on the true prevalence of plantar fasciitis in this population. Understanding the prevalence and impact of plantar fasciitis among housewives can help inform targeted interventions and public health strategies to address this common and debilitating condition. By identifying the specific needs and challenges faced by housewives with plantar fasciitis, healthcare providers can develop more effective management plans and improve the overall quality of life for this important demographic group (12-14).

MATERIAL AND METHODS

In this survey-based study, participants were recruited from a variety of sources, including clinics, online platforms for podiatry patients, and community centers. The target population comprised housewives aged 25-60 years, who had either a self-reported or clinically diagnosed case of plantar fasciitis, and who had experienced symptoms for at least three months. Exclusion criteria included recent surgery on the foot or lower extremities, neurological conditions affecting the feet, and any severe systemic conditions that might confound the study results. A minimum sample size of 127 respondents was determined to ensure adequate statistical power, based on an estimated prevalence of plantar fasciitis in the target population.

The survey instrument used for this study was a comprehensive, researcher-developed questionnaire, based on validated plantar fasciitis assessment tools. The questionnaire included sections on demographics, pain characteristics, duration of symptoms, impact on daily activities, and treatment methods used. Pain intensity was measured using the Visual Analog Scale (VAS) and the Numerical Rating Scale (NRS). Multiple-choice questions and Likert scale items were employed to capture a broad range of information regarding the participants' experiences and management strategies for plantar fasciitis.

Data were collected through an online survey platform to ensure broad reach and ease of participation. Participants received clear instructions on how to complete the survey, with an estimated completion time of 15-20 minutes indicated. The data collection period spanned one month, during which reminders were sent to potential participants to encourage completion. For those without

internet access, paper surveys were distributed and collected at participating clinics and community centers.

Collected data were processed and analyzed using SPSS version 25. Data entry procedures included double-checking for accuracy and completeness, with any discrepancies resolved through cross-referencing original survey responses. Descriptive statistics summarized demographic data, pain scores, and the prevalence of specific symptoms. Inferential statistics, such as chi-square tests and logistic regression, explored correlations between various treatment methods and outcomes, as well as identified potential risk factors for plantar fasciitis within the housewife population.

To ensure the validity of the self-reported diagnosis of plantar fasciitis, participants described their symptoms in detail, and those descriptions were cross-referenced with standard diagnostic criteria. The survey also included sections on current and past treatment methods, such as physiotherapy, use of orthotics, stretching exercises, and medications. Pain intensity was assessed using both the Visual Analog Scale (VAS) and the Numerical Rating Scale (NRS) to provide a comprehensive picture of the pain experienced by participants.

Ethical approval for the study was obtained from the relevant institutional review board, and the study adhered to the principles of the Declaration of Helsinki. Participants were informed about the purpose of the study, the voluntary nature of their participation, and their right to withdraw at any time without any consequences. Informed consent was obtained from all participants before they began the survey.

RESULTS

The results of this study indicated that the prevalence of plantar fasciitis among housewives was 4.72%, highlighting its significance as a common musculoskeletal issue in this demographic. This prevalence underscores the need for targeted interventions and awareness programs specifically tailored for housewives, who are often engaged in prolonged standing and walking activities that predispose them to such conditions.

Table 1 Demographic Characteristics

Variable	Category	Frequency (n)	Percentage (%)
Age Group	25-34	37	29.1
	35-44	42	33.1
	45-54	29	22.8
	55-60	19	15.0
Living Area	Urban	74	58.3
	Rural	53	41.7
Educational Status	No formal education	19	15.0
	Primary education	41	32.3
	Secondary education	35	27.6
	Higher education	32	25.2
Occupation	Housewives	127	100
Religion	Muslim	105	82.7
	Others	22	17.3

Table 2 Study Variables

Variable	Category	Frequency (n)	Percentage (%)
Prevalence of Plantar Fasciitis (PF)	-	6	4.72
Foot Affected	Right foot	57	44.9
	Left foot	44	34.6
	Both feet	26	20.5
Onset of Pain	Sudden onset	32	25.2
	Gradual onset	95	74.8
Exercise Involvement	Involves in exercise/sports	28	22.0
	Does not involve in exercise/sports	99	78.0
Footwear Usage	Saddle	114	89.8
	Shoe	13	10.2
Severity of Pain (VAS)	Mild (0-3)	19	15.0

Variable	Category	Frequency (n)	Percentage (%)
	Moderate (4-6)	76	59.8
	Severe (7-10)	32	25.2
Associated Diagnosis	Heel Spurs	30	23.6
	Achilles Tendinopathy	15	11.8
	None	82	64.6

Age distribution analysis revealed that the most vulnerable age group for plantar fasciitis was 35-44 years, comprising 33.1% of the participants (Table 1). This was followed by the 25-34 years age group at 29.1%, indicating that plantar fasciitis affects housewives relatively early in their adult lives. The 45-54 years age group constituted 22.8% of the participants, while the 55-60 years age group was the least affected, accounting for 15.0%.

A majority of the participants were from urban areas, representing 58.3% of the sample, compared to 41.7% from rural areas (Table 1). This urban predominance could be due to lifestyle factors such as prolonged standing on hard surfaces and inadequate footwear, which are more common in urban settings.

Educational status varied among the participants, with 32.3% having completed primary education, making it the largest group (Table 1). Secondary education was completed by 27.6% of the participants, while 25.2% had higher education, and 15.0% had no formal education. This distribution highlights the diverse educational background of the housewives affected by plantar fasciitis.

The study also examined the foot affected by plantar fasciitis, revealing that 44.9% of the participants reported issues with their right foot, while 34.6% had issues with their left foot. Bilateral involvement was reported by 20.5% of the participants (Table 2). This indicates that while unilateral plantar fasciitis is more common, a significant portion of housewives experience bilateral symptoms, complicating their daily activities and mobility.

Onset of pain was another critical factor analyzed, with 74.8% of the participants reporting a gradual onset of pain, while 25.2% experienced a sudden onset (Table 2). Gradual onset is often associated with repetitive strain and prolonged standing, common in household chores, further emphasizing the need for preventive measures and early intervention.

Exercise involvement was notably low among the participants, with 78.0% not engaging in any kind of exercise or sports (Table 2). Only 22.0% reported involvement in physical activities, suggesting a potential area for intervention to reduce the risk and severity of plantar fasciitis through targeted exercise programs.

Footwear usage showed a significant preference for saddle-type footwear, used by 89.8% of the participants, while only 10.2% used shoes (Table 2). This preference for saddle-type footwear could be a contributing factor to the high prevalence of plantar fasciitis, as such footwear often lacks proper arch support and cushioning.

Pain severity, measured using the Visual Analog Scale (VAS), indicated that 59.8% of the participants experienced moderate pain, while 25.2% reported severe pain, and 15.0% had mild pain (Table 2). The predominance of moderate to severe pain highlights the substantial impact of plantar fasciitis on the daily lives of housewives.

Associated diagnoses were also explored, revealing that 23.6% of the participants had heel spurs, and 11.8% had Achilles tendinopathy, while 64.6% had no other associated diagnoses (Table 2). The presence of these associated conditions underscores the complexity of managing plantar fasciitis and the need for comprehensive treatment approaches.

DISCUSSION

The prevalence of plantar fasciitis among housewives in this study was found to be 4.72%, highlighting its significance as a common musculoskeletal issue within this demographic. This finding is consistent with previous research indicating that plantar fasciitis affects a substantial portion of the population engaged in prolonged standing and walking activities. For instance, a

study by Riddle et al. (2003) reported similar prevalence rates in occupational groups that experience significant foot stress, underscoring the importance of addressing this condition in populations such as housewives.

Age distribution analysis revealed that the most vulnerable age group for plantar fasciitis was 35-44 years, comprising 33.1% of the participants. This early onset within the adult population aligns with research by Buchbinder who found that plantar fasciitis commonly affects individuals in their working years, particularly those involved in physically demanding activities. The predominance of urban participants, representing 58.3% of the sample, is likely due to lifestyle factors associated with urban living, such as prolonged standing on hard surfaces and the use of inadequate footwear. This urban-rural disparity has been noted in studies such as that which emphasized the role of environmental and lifestyle factors in the development of plantar fasciitis (15-17).

Educational status varied among the participants, with a significant portion having completed only primary education. This distribution reflects the diverse socio-economic backgrounds of housewives affected by plantar fasciitis and suggests that lower educational levels might correlate with reduced awareness and management of the condition. Similar correlations between educational status and health outcomes have been observed in other musculoskeletal disorders, as discussed (18).

The study also revealed that 44.9% of participants had issues with their right foot, while 34.6% had issues with their left foot, and 20.5% experienced bilateral symptoms. The prevalence of unilateral plantar fasciitis, particularly in the right foot, has been similarly reported who suggested that biomechanical factors might contribute to the asymmetric distribution of symptoms. Most participants, 74.8%, reported a gradual onset of pain, which is typical of plantar fasciitis and indicative of repetitive strain rather than acute injury. This gradual onset has been well-documented in the literature, including by who highlighted the chronic nature of plantar fasciitis as a cumulative injury resulting from overuse (19-21)

Exercise involvement was notably low among the participants, with 78.0% not engaging in any form of exercise. This lack of physical activity is concerning, as regular exercise is known to strengthen the musculoskeletal system and potentially reduce the risk of conditions like plantar fasciitis. Similar findings were reported by Rome et al. (2001), who emphasized the protective role of physical activity against foot disorders.

The majority of participants used saddle-type footwear, which lacks proper arch support and cushioning, potentially contributing to the high prevalence of plantar fasciitis. This finding aligns with research by Wearing et al. (2006), who identified inappropriate footwear as a significant risk factor for the development of plantar fasciitis.

Pain severity, as measured by the Visual Analog Scale (VAS), indicated that most participants experienced moderate to severe pain, highlighting the substantial impact of plantar fasciitis on daily life. This high level of pain severity has been corroborated by other studies, such as that by Crawford et al. (1998), which emphasized the debilitating nature of plantar fasciitis.

Associated diagnoses, including heel spurs and Achilles tendinopathy, were present in a significant portion of participants, underscoring the complexity of managing plantar fasciitis. The coexistence of these conditions has been discussed by League (2008), who noted that they often complicate the clinical picture and require comprehensive management strategies.

This study's strengths include a focused examination of housewives, a demographic often overlooked in musculoskeletal research, and the use of a comprehensive survey instrument. However, limitations include the relatively small sample size and potential self-reporting biases. Future research should aim to include larger sample sizes and objective diagnostic measures to validate self-reported data. Additionally, interventions promoting physical activity and the use of appropriate footwear should be investigated to reduce the prevalence and impact of plantar fasciitis among housewives.

CONCLUSION

In conclusion, the study provided valuable insights into the prevalence and characteristics of plantar fasciitis among housewives, emphasizing the need for early diagnosis, preventive measures, and tailored interventions. By addressing the specific risk factors and lifestyle characteristics of this demographic, healthcare providers can develop more effective management strategies to mitigate the burden of plantar fasciitis..

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