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Prevalence of Foot and Ankle Pain in Physiotherapists across Ahmedabad City

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Abstract: ***Introduction: Physical therapists perform many physically demanding tasks that are associated with work - related musculoskeletal disorders. The foot provides a base of contact with the ground; it plays an important role in all weight - bearing activities, including walking, and provides stability and balance. Any kind of pain or uneasiness in the ankle or foot is referred to as ankle and foot pain. The aim of the study is to find out the prevalence of foot and ankle pain among physiotherapists across Ahmedabad city. Methods: Physiotherapists with an age between 21 and 40, both male and female, were included as per inclusion and exclusion criteria. Participants were asked to fill out the Foot Function Index Revised Short Form (FFI) scale, which was shared with the subjects using the social media platform. Ethical clearance has been obtained. Result: This study was undertaken with a total of 126 subjects, both male (37) and female (89) physiotherapists, selected based on inclusion and exclusion criteria. The results showed a 56.83% prevalence of foot and ankle pain among physiotherapists across Ahmedabad city. Conclusion: The study concludes that there is a high prevalence of foot and ankle pain among physiotherapists across Ahmedabad city, and it also affects the activities of daily life.***

Keywords: Foot and ankle pain, Foot function index, Physiotherapists, Prevalence.

1. Introduction

The risk of musculoskeletal problems is higher in people who must stand for longer periods of time, lift heavier objects, and perform more strenuous physical activities. Repetitive movement, awkward postures, and high force levels are the three main risk factors that have been linked to WMD. [(1)]

Due to their extended standing periods, patient transfers, mat work, and other activities, physiotherapists are more likely to experience foot and ankle pain. The foot serves as the body's point of contact with the ground, is essential for all weight - bearing tasks like walking, and helps the body maintain stability and balance while doing so. It also acts as a shock absorber and helps the body adapt to different surfaces. A person's biomechanical function of the foot is disrupted by any type of foot discomfort, which can result in aberrant gait, difficulties walking, and balance issues. [(2)]

The twenty - six separate bones of the foot and the long bones of the lower leg combine to generate thirty - three joints in the foot and ankle. There are several articulations that help the foot move, even though they are commonly referred to as the "ankle joint. " The ankle joint complex consists of the talocalcaneal (subtalar), tibiotalar (talocrural), and transverse - tarsal (talocalcaneonavicular) joints. [(3)]

Plantarflexion and dorsiflexion, which occur in the sagittal plane; abduction and adduction, which occur in the transverse plane; and inversion and eversion, which occur in the frontal plane, are the main movements of the ankle joint complex ([(4).] Supination and pronation, which are three - dimensional motions, are produced by combining these motions across the subtalar and tibiotalar joints. [(5)]

Up to 30% of the general population suffers from incapacitating foot and ankle discomfort, which is extremely common. In fact, 50% of white - collar working women between the ages of 21 and 40 reported having foot and ankle discomfort in the previous year, indicating that it is equally widespread among younger individuals. [(6)]

As a result, it has been noted that there is a significant incidence of foot and ankle pain, which negatively affects both everyday living and productivity at work. [(7)]

There is little information available from Asian nations like India, despite the fact that several major studies have concentrated on the prevalence of foot and ankle pain in western nations. Therefore, it was important to conduct a survey in order to learn the prevalence of foot and ankle pain among physiotherapists. The current study's objectives were to observe the incidence of foot and ankle pain among physiotherapists across Ahmedabad city using the foot function index scale and to determine the prevalence of foot and ankle pain among physiotherapists with an age range of 21 to 40 years.

2. Materials & Methods

An observational study was conducted in Ahmedabad, Gujarat, India. The purposive sampling method was used. Data collection was done through an online questionnaire that was created by Google Forms. A total of 126 responses were recorded based on inclusion and exclusion criteria. All physiotherapists were aged between 21 and 40 years old. Physiotherapists working in different areas (academic, outpatient clinic, private clinic, intern, and both males and females) were included in the study. Physiotherapists who are undergraduate students, have a history of ankle joint

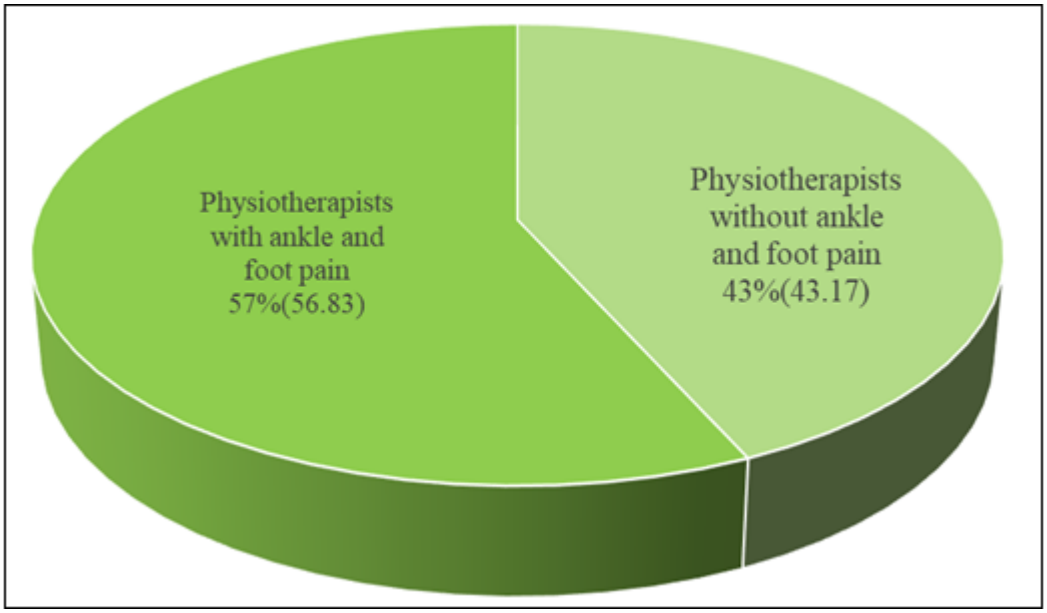
injury, have been diagnosed with a degenerative disorder, have congenital defects, or have undergone ankle joint surgery were excluded. Through a Google form, participants' age, gender, height, and weight were obtained. The self - administered standardized Foot Function Index Revised shortform was given to each participant through a Google Form. Pearson reliability of the FFI - R Short Form is 0.95, and Cronbach's alpha reliability is 0.97. As thorough foot function evaluation instruments, the FFI - R short form (FFI - R S; 34 items) and the FFI - R long form (FFI - R L; 4 subscales and 68 items) are both employed. Both the 68 - item and 34 - item tests demonstrated good psychometric properties. [8]

Both the long (FFI - RL, 67 items) and short (FFI - RS, 34 items) versions of FFI - R are available. The five subscales that all versions are intended to measure are pain, stiffness, difficulty, activity restrictions, and social difficulties. There are various subscales of the FFI - RS, each with a different number of items. The total response score on the FFI - RS is derived by adding all the responses, dividing by the highest possible sum of all rated items, and multiplying by 100. A higher score indicates a worse perception of foot function. [9]

3. Result

A total of 126 participants completed the questionnaire. This cross - sectional study was undertaken, wherein 126 physiotherapists in the age group of 21–40 years were selected through purposive sampling. The data were analyzed using descriptive statistics and a Microsoft Excel work sheet. Results showed the prevalence of foot and ankle pain at its worst is 67.78%, and pain at the end of the day is 65.71%. The prevalence of difficulty during running or fast walking is 68.17%, which is highest among physiotherapists, while walking in the house is 56.90%, which is lowest among physiotherapists. The prevalence of limitations in physical activities is 50.56%.

The prevalence of foot and ankle pain, disability, and limitation of activity is 56.83% among male and female physiotherapists who worked in different areas: academic, outpatient clinic, private clinic, and intern.



4. Discussion

Keenan AM et al, concluded that foot and ankle joint pain was the third most common site of self - reported joint pain, behind only knee (220.33 per 1000) and wrist/hand pain (190.09 per 1000) as reported in our previous publication. [10]

Another study done earlier by Thomas, Martin J. et al., and the study concluded that Compared to the plantar heel and posterior heel, pain was more common in the midfoot and toe areas. Among the general population, a systematic review showed that the most common locations of pain in the foot were the toe and forefoot, followed by the arch, and the heel and hindfoot across all age groups. [11]

Garrow AP et al., in their study concluded that foot pain has been linked to a number of foot issues, including bunions (hallux valgus), toe deformities, flat feet, high arches, corns and calluses, and heel spurs/problems. [12]

Martin J. Thomas suggested the most common anatomical sites of pain were the toes and forefoot, there was a majority of females, age - related increases in incidence in women but not in men, moderate disability in one part of daily living was recorded in two - thirds of cases. Estimates of the social cost of foot and ankle discomfort in middle - aged and elderly people are provided in this review. [13]

Females have a higher propensity to develop foot and ankle pain than males, which is most frequently attributed to differences in the properties of footwear that are specific to each gender according to Menz HB et al. The development of problems like hallux valgus, hammertoes, claw toes, and plantar keratotic lesions has been linked to the characteristics of female footwear, which often have a

higher heel elevation and a narrower toe box than male footwear. [14]

Bork BE et al, concluded that among physiotherapists, the majority of whom worked in hospitals, there is 10.7% ankle and foot pain with symptoms. [15]

5. Conclusion

The results of this study shows that physiotherapists in Ahmedabad experience a significant prevalence of foot and ankle pain. There is a need for physiotherapists to be knowledgeable and conscious of foot and ankle pain. The prevention of foot and ankle pain among physiotherapists should receive more emphasis, along with breaks from prolonged standing and the adoption of proper posture when utilizing various treatments.

6. Limitations

- This study was constrained with insufficient sample size.
- The research has been carried out only across Ahmedabad city.
- Males and females both are taken for the study.
- Prevalence was not measured, according to field of work (academic, outpatient clinic, private clinic, intern).

7. Future Recommendation

- A greater sample size might be used for research.
- A study that considers gender should be conducted.
- The type of work (academic, outpatient clinic, private clinic, intern). is something that can be considered.

Ethical Approval: Approved

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