Abstract

Background: The widespread chronic condition known as flat foot deformity is characterized by a decrease in the Medial Longitudinal Arch (MLA), rearfoot valgus, and midfoot abduction. It affects about 25% of the population, with a higher prevalence among women, those with a higher BMI, and those with larger feet. MLA height divides foot arch types into normal, low (flat feet), and high. The disorder can have an influence on locomotion, posture, and muscle function, causing fatigue and cramps. Tibialis posterior dysfunction and Achilles tendon shortening are two potential causes.

Objectives: The objective is to determine how common calf muscle shortening is in patients with flat feet who do not exhibit any symptoms.

Materials and Methods: The study included sixty-nine asymptomatic flat-foot patients, both male and female, with ages ranging from 18 to 24. Ankle dorsiflexion range of motion was measured with a goniometer while seated high on the sofa in order to measure calf muscle shortening.

Results: The study revealed significant relationships between age, gender, and BMI and foot function measurements. Notably, age was linked to navicular drop, jack test, and ankle dorsiflexion. Gender had an impact on dorsiflexion and test results, whereas BMI had a significant relationship with navicular drop, jack test, and ankle mobility, recognising the complex nature of flat foot mechanics.

Conclusion: Age and BMI have a considerable impact on the severity of flat feet in asymptomatic people. Although males exhibited increased ankle dorsiflexion, no direct correlation to severity was established. Maintaining weight and addressing issues early might aid in minimizing future symptomatic problems.

Keywords: Body Mass Index (BMI), Medial Longitudinal Arch (MLA).

List of Tables

SL NO.	CONTENT	PAGE NO.
Table 1	Participant's Characteristics	14
Table 2	Correlation between age and navicular drop test	15
Table 3	Correlation between age and the Jack test	15
Table 4	Correlation between age and right ankle dorsiflexion	16
Table 5	Correlation between age and left ankle dorsiflexion	17
Table 6	Correlation between gender and left ankle dorsiflexion	18
Table 7	Correlation between gender and right ankle dorsiflexion	19
Table 8	Correlation between gender and the Jack test	20
Table 9	Correlation between gender and navicular drop test	21
Table 10	Correlation between BMI and navicular drop test	22
Table 11	Correlation between BMI and the Jack test	22
Table 12	Correlation between BMI and right ankle dorsiflexion	23
Table 13	Correlation between BMI and left ankle dorsiflexion	24