Original Article

Prevalence of flat foot among children in schools of University Town Peshawar, Pakistan

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Objectives: To determine the prevalence of flat foot among school going children of university town, Peshawar, Pakistan.
Methodology: This cross sectional survey included 311 children aged 513, both male & female.
Result: The prevalence of flat foot was 17% (n=53), which was more common in male (n=34) as compare to female (n=19). The risk of developing flatfoot decreases as the age advances.
Conclusion: The prevalence of flat foot was higher in male children as compared to females. BMI was not associated with flatfoot. (Rawal Med J 201;41:465-466)
Keywords: Children, Flat foot, foot deformities, longitudinal arch, Pes planus.

INTRODUCTION

Human foot serves as a weight bearing structure of the body and enables a person in walking, running, climbing and numerous other activities. The foot consists of three arches, two longitudinal arches, which are medial and lateral longitudinal and one is transverse arch.[1,2]

Flat foot is also termed as pes planus. It is a loss of the medial longitudinal arch of the foot and medial talar prominence and valgus deformity of the heel. This common condition is typically asymptomatic and resolves spontaneously in the first decade of life. In infancy, the tissues which surround the joint i.e. muscles ligaments and tendons are loose, and with time up to two or three years these tissues tighten.[3,4]

The risk factors for the development of flat foot are young age, hereditary, male sex, overweight, obesity, foot wear and physical activity. A study from Rawalpindi reported a prevalence of 14.8% of flat foot and was more common in males.[5] A study on the prevalence of flat feet among 2100 male recruits of Saudi Arabia 18-21 years of age showed a prevalence of 5.0%.[6] This study was conducted on primary school children to determine the prevalence of flat foot among school going children of University town Peshawar, Pakistan.

METHODOLOGY

This descriptive cross sectional survey was conducted on University Model School (UMS) and University Public School (UPS) in 2015. A sample of 311 children including 166 females and 145 males, aged between 5 and 12 years, from class one to eight and having inform consent from their legal guardians participated in this study. Children with flat foot with other conditions i.e. congenital or acquired neurological disease or prior foot surgery were excluded from the study. The questionnaire included subjective, objective history and plantar arch index was used for the diagnosis of flat foot. The data were analyzed using SPSS. Version 20.

RESULTS

The mean age was 9.55±1.80 Years. There were 64% (n=34) males and 36 % (n=19) Females.

The prevalence of flat foot was 17% (n=53). Majority of flat feet suffering children were of 7 years of age.

Table1. Pain/Discomfort vs Flat foot.

Pain/ discomfort	Flat foot
Foot	52.83 % (n=28)
Knee	32.07 % (n=17)
Back	15.09 % (n=8)

Among students with flat foot, 79.24% (n=42) were under weight, 16.98% (n=9) were normal weight and 3.77% (n=2) were overweight; none were obese. Pain in foot and knee were commonest symptoms in children with flat foot (Table 1).

DISCUSSION

The result of our study shows that the prevalence of flatfoot among school going children was 17%, which is more than that of Saudi Arabian male recruits, which was 5% This difference may be due to the fact that flat foot is less common in advance age as compared to children.[6] A study from Southeast Nigeria reported flat foot in 45 out of 649 subjects.[7] In our study, flat feet were more common in male (64 %) as compared to female (36 %); this is supported by the study of Sharma et al, in which male were 85.71% and female were 14.28%.[1]

In our study, flat feet were less prevalent in over weight students (4%). This is similar to a study by Rao et al.[8] Our findings are similar to a study of schools children where only 5% were overweight.[9]

Our study showed higher prevalence in children 7 years of age, which is almost similar to the study by Ezema et al in public primary schools in Enugu metropolis where the prevalence of flatfoot was 46% among 6 years old children and lowest 1.7% in 10 years old children.[10]

CONCLUSION

Nearly one fourth of school going children had flat foot and the prevalence was higher in male children as compare to females. In our study, BMI was not associated with flat foot.

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