Association between nutritional status and flat foot prevalence in Chilean children from 6 to 10 years old


Abstract

Introduction: Given the increment of overweight and obese children, it is relevant to study not only metabolic but also musculoskeletal consequences that may affect motor functionality such as flat foot in this population.

Objective: To identify the association between nutritional status and the prevalence of flat foot in Chilean children from 6 to 10 years old.

Methods: Z-score of body mass index and footprint using Hernandez-Corvo methodology were recorded and analyzed from 388 school children (52.3% girls). A two-sample proportion test was used to test differences between groups. Statistical significance was set at p <= 0.05.

Results: The prevalence of overweight children was over 40%. This prevalence was higher in women (47.8%) than in men (42.7%). The prevalence of children with flat foot was 17% and higher for the right foot (18.3%) than for the left foot (15.7%). There was a significant higher prevalence of flat foot in obese children in relation to overweight and normal weight children.

Conclusion: Nutritional status is associated with greater prevalence of flat foot in children. In infantile population of 6 to 10 years old, obesity is associated with a morphological alteration of feet.

Keywords Flatfoot, Nutritional Status, Body mass index, Overweight Child, Obese children, Plantar pressure, Young-children, Overweight, Patterns, Weight, Arch, Nutrition & Dietetics