CONTRIBUTION IN THE FOOT HEALTH STATUS IN ELDERLY PEOPLE BASED ON THE RESULTS OF BIOMECHANICS GAIT ANALYSIS

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Purpose: To examine the correlation between the gait biomechanic analysis, foot dynamometry movements and different variables about the foot health status in elderly people.

Relevance: Exact knowledge of the biomechanics of foot-print using this tool, as well as the relationship with the function and health status of the foot are important for planning the rehabilitation of the musculo skeletal pathology of the foot.

Participants: 22 participants over 60 years old were recruited for a physical activity program.

Methods: The variables were about anthropometric characteristics, about general and foot health status by FHSQ questionnaire scores (foot pain, foot function, participant shoes, general health, physical activity, social capacity and vigour), about biomechanic gait analysis (maximum pressures retro, mid and front foot, pressures times, times to initiate and end supports, maximum average pressures) and about analogue dynamometry variables in differente foot movements.

Analysis: We used Pearson's linear correlation with 95% Zr and a multivariant correlation. We looked for simple and multiple regression models.

Results: the Pearson´s linear correlation showed relationships between foot pain variable with ending support in mid right foot variable ($r = 0.562$), maximum average pressure in mid right foot ($r = 0.424$), maximum average time pressure in front right foot ($r = 0.588$) and first right foot finger flexion ($r = 0.434$). A multivariant correlation was performed using the foots physical components of the FHSQ questionnaire scores how to dependent variable (foot pain) and the most relevant independents variables; ending support in mid right foot, maximum average time pressure in front right foot, first right foot finger flexion ($r2 = 0.484$; $p < 0.007$).

Conclusions: We determined a significant quantitative relationship between biomechanics gait analysis, right foot dynamometry movements and the foot health status.