<https://doi.org/10.47660/CBR.2020.17831>

GAIT NORMALITY THROUGH DYNAMIC BAROPODOMETRY IN HEALTHY ADOLESCENTS - PRELIMINARY RESULTS

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BACKGROUND

Dynamic pedobarography is an objective method of gait assessment and allows the identification of a series of abnormalities, since it automatically recognizes the right and left feet, records all steps and stipulates the step closest to the mean. Although it is a test of academic and clinical interest, there is no standardization of results of normality for the pediatric age group. The objective of this study was to determine the parameters of normal gait in healthy adolescents, using the dynamic pedobarography test.

MATERIALS AND METHODS

In this cross-sectional and observational study, we studied the gait healthy adolescents aged from 14 to 16 years old using dynamic pedobarography with respect to the following parameters: speed, step time and gait cadence. In addition to this test, adolescents will be assessed for physical capacity, physical inactivity and physical activity, using previously validated questionnaires.

RESULTS

The present study was temporarily interrupted due to the coronavirus disease 2019 (COVID-19) pandemic. We assessed the gait of 57 adolescents with an average age of 14.8 years, all healthy and without any physical disability (CHAQ = 0). The average speed of the right foot was 323.75 mm/s, the average speed of the left foot was 318.96 mm/s, the step time of the right foot (mean) was 0.735 s and the left foot (average) was 0.736 s. The average body strength center was 4.57 cm² (Table 1).

Table 1. Mean of the questionnaire and dynamic pedobarographic data.

Questionnaire	Mean
Age	14.78
BMI	21.95
PedsQL 4.0	79.97
Quality of life – Activities	85.75
Quality of life – Feelings	69.73
Quality of life – Coexistence	86.23
Quality of life – School	74.64
CHAQ	0
Dynamic pedobarography	
Speed of the right foot	323.75 mm/s
Speed of the left foot	318.96 mm/s
Step time of the right foot	735.98 s
Step time of the left foot	736.84 s
Body strength center	4.57 cm ²

CONCLUSION

At the end of this study, we will be able to standardize gait for adolescents between 14 and 16 years of age through dynamic pedobarography.