Normative values of height, bodyweight and body mass index of 12–17 years population from extremadura (Spain)

- Gomez-Galan R.[a],
- Pastor-Cisneros R.[b],
- Carlos-Vivas J.[b],
- Mendoza-Munoz M.[b],
- Adsuar J.C.[a],
- Garcia-Gordillo M.A.[c],
- Munoz-Bermejo L.[a]

Abstract

Background: Growth charts constitute an essential tool for monitoring adolescents' development. In Extremadura, the percentile growth charts by Faustino Orbegozo Foundation are used. However, they are based on Basque Country population data. Considering socioeconomic differences between Spanish regions, growth chart data could not be appropriate. Aims: to describe the percentile distribution of adolescents from Extremadura and compare these percentiles with those proposed by the Faustino Orbegozo Eizaguirre Foundation that are currently applied in the Extremadura Health Service. Methods: A descriptive cross-sectional study was conducted. A total of 4130 adolescents (12–17 years) participated into the study. Bodyweight and height were assessed. Results: Significant differences were found comparing real measured values with commonly used reference tables for bodyweight at all ages between 12 and 13 years and at 14 years in both gender ($p < 0.05$). Differences were also found in boys at 15, 16.5 and 17 years ($p < 0.05$). Regarding height, significant differences were reported at 12, 13, 14.5, 15, 16.5 and 17 years old ($p < 0.05$) in males; while females' results only revealed differences at 12, 12.5, 14.5 and 15.5 years ($p < 0.05$). BMI outcomes showed differences in both gender at 12, 12.5, 13, 14 and 15 years old ($p < 0.05$). Differences were also found at 16 and 14.5 years for boys and girls, respectively ($p < 0.05$). Conclusion: Bodyweight, height and BMI of adolescents from Extremadura differ of the reference values currently applied. Hence, this study's outcomes suggest the need to use new indicators, adapted to the physical and anthropometric reality of children and young people to avoid the possible normalisation of situations of thinness, overweight or obesity.

Author keywords

Adolescence; Anthropometric; BMI; Growth table; Pediatrics; Youth