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Fatemeh Saffari MD<sup>1</sup>, Shabnam Jalilolgadr MD<sup>1</sup>, Neda Esmailzadehha MD<sup>2</sup>,  
Keivan Shariatinejad MSc<sup>3</sup>

### Abstract

**Background:** Regular monitoring of height, weight and head circumference is the best indicator of the status of the individual and community health. Growth is influenced by race, genetic, environmental factors, economic status and lifestyle. The aim of this study was to determine the anthropometric indices and evaluate the performance of the CDC 2000 reference in 6 to 14 year-old girls in Qazvin, Iran.

**Methods:** A descriptive, cross-sectional study was conducted on 2219 elementary and secondary school girls in Qazvin during 2009-10. Random cluster sampling was performed to select subjects from public and private schools considering 10 percent of the students. Eighteen students were excluded due to underlying diseases or medications intake. Height (with an accuracy of 2 mm) and weight (with an accuracy of 100 grams) were measured. Body mass index (BMI) was calculated by dividing the weight in kilograms by the square of the height in meters. BMIs below the 5<sup>th</sup> percentile, between the 5<sup>th</sup> and 85<sup>th</sup> percentile, between the 85<sup>th</sup> and 95<sup>th</sup> percentile, and above the 95<sup>th</sup> percentile were respectively considered as underweight, normal, overweight, and obese.

**Findings:** Height in 1260 students (57.24%) and weight in 1153 cases (52.38%) were below the 50<sup>th</sup> percentile. Comparing the height values with NCHS showed that 157 subjects (13.7%) were under the 5<sup>th</sup> percentile, 78 individuals (3.55%) were over the 95<sup>th</sup> percentile and 1966 cases (89.32%) had normal weight. Comparing the weight values with NCHS revealed that 217 patients (9.85%) were under the 5<sup>th</sup> percentile, 1848 cases (83.97%) had normal weight and 136 individuals (18.6%) were over the 95<sup>th</sup> percentile. When the calculated BMIs and NCHS values were compared, 206 students (9.35%) were underweight, 1553 cases (70.55%) were normal, 282 cases (12.7%) were overweight and 163 (7.4%) were obese. The study showed the growth pattern of girls in Qazvin to be different from CDC 2000 reference.

**Conclusion:** Since the average height of girls was below the reference and their average weight was similar or slightly higher than the reference, BMI was eventually increased compared to the reference group. The study showed that the growth pattern of girls in Qazvin was different from CDC 2000 reference. Given these differences, using national standard growth curves based on ethnic and regional diversity seems to be necessary.

**Keywords:** Height, Weight, Body mass index (BMI), Girls, Growth.

<sup>1</sup> Assistant Professor, Department of Pediatrics, School of Medicine, Qazvin University of Medical Sciences, Qazvin, Iran

<sup>2</sup> Qods Clinical Research Center, Qazvin University of Medical Sciences, Qazvin, Iran

<sup>3</sup> Department of Biostatistics, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran

**Corresponding Author:** Shabnam Jalilolgadr MD, Email: shabnam\_jalilolgadr@yahoo.com