

The obesity and growth in Korean children and adolescents

Sei Won Yang, MD, PhD

Division of Endocrinology and Metabolism, Department of Pediatrics, Seoul National
University Children's Hospital, Seoul, Korea

Obesity is one of the most important health problem in children worldwide. WHO defines obesity as a part of 'the double burden of malnutrition' along with nutritional deprivation. It is usually related to metabolic syndrome even in young age groups and the prevalence of obesity is rapidly increasing, especially in developing countries. In Korea, the prevalence of obesity increased from 5.8% in 1997 to 9.7% in 2005 according to the National Growth Survey. For the school age groups, this trend was still prominent. According to the National School Health Examination, the prevalence of obesity increased from 11.7% in 2010 to 13.4% in 2015. Including overweight, which is defined as BMI between 85 percentiles and 95 percentile of standard BMI, the prevalence could rise up to 21.8% in school age groups (7-18 year).

Secular trends of height increment in children has been a striking phenomenon during the last decades. According to the 2005 survey report performed by the Korean Pediatric Society, in association with the government, the mean height of boys was 50.4 cm at birth, 77.3 cm at 12 month of age, and 174.3 cm at 20 year of age. The mean height of girls was 49.9 cm at birth, 76.4 cm at 12 month of age, and 161.2 cm at 20 year of age. For the comparison, , the mean heights of boy at 12 months of age were 74.8 cm in 1965, and 77.3 cm in 2005, respectively (2.5 cm of height gain), respectively, The mean heights of girl at 12 month of age were 72.8 cm in 1965, and 76.4 cm in 2005 (3.6 cm of height gain), respectively. The mean heights of boy at 7 year of age were 112.5 cm in 1965, and 124.9 cm in 2005 (12.4 cm of height gain), respectively. The mean heights of girl at 7 year of age were 112.0 cm in 1965 and 123.7 cm in 2005 (11.7 cm of height gain), respectively. The mean heights of boy at 20 year of age were 168.9 cm in 1965, 173.4 cm in 1997 and 174.3 cm in 2005 (4.5 cm and 0.9 cm of height gain, respectively), respectively. The mean heights of girl at 20 year of age were 155.9 cm in 1965, 160.4 cm in 1997 and 161.2 cm in 2005 (4.5 cm and 0.8 cm of height gain, respectively), respectively. Compared to 2015 school health examination data, there was little change in final height of late adolescents since 1997.

In summary, obesity epidemic has been still a big health problem in Korean children. There were great secular changes in final adult height from 1965 to 1997; nevertheless, there were little change in final adult height since 1997. There seems to be a relationship between growth acceleration during puberty and degree of obesity, but which should remained to be clarified for further study.