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LETTER TO THE EDITOR

Overweight and obesity in young people according to national and international standards☆

Sobrepeso y obesidad en jóvenes según referencias nacionales e internacionales

Sir,

Obesity is among the most important public health problems in developed countries and a risk factor associated with the development of the main chronic diseases. The increasing prevalence of overweight and obesity in children and adolescents seen in the past two decades is particularly worrying.[1]

Body mass index (BMI, weight in kilograms/height in meters squared)[2] is the parameter that best defines obesity in children and adolescents. There is however no agreement on the cut-off points and tables to be used. Standards derived from both national and international series are available and are used for this purpose. Such standards include those reported by Cole et al.[3] in 2000 and recommended for use by expert committees such as the International Obesity Task Force (IOTF), which define obesity and overweight based on extrapolation of adult BMI values of 30 kg/m^2 and 25 kg/m^2, respectively. In the Spanish population, the percentile tables of the Fundación Orbegozo[4] have been used, using the 85th percentile as the limit for overweight and the 95th percentile as the cut-off point for defining obesity, as recommended by the European Children Obesity Group (ECOG).[5] However, other authors have preferred to use the 90th and 97th percentiles, respectively.[6] It is therefore not easy to make comparisons between the results of different studies because the criteria used to define overweight and obesity are not the same: not all of them use the same tables as reference or the same cut-off point.

The purpose of this study was to compare the prevalence of overweight and obesity in an adolescent population of the Spanish province of Caceres using different criteria and references based on BMI.

This was an observational, cross-sectional epidemiological study. The sample consisted of 69 adolescents aged 14–18 years (47.8% males) from the Spanish province of Caceres taken from a database of the general population older than 14 years consisting of 1459 subjects. They were selected by three-stage sampling: several towns from each of the four healthcare areas of the province, and subsequently several healthcare centers and physician lists, were randomly selected. Subjects were randomly selected from each physician list.

The prevalence of overweight and obesity was measured using as cut-off points the age- and sex-specific 90th and 97th percentiles in the most recent national reference tables of the Fundación Orbegozo[4] and the international tables for use in children reported by Cole et al.[3]

The prevalence of excess weight (overweight plus obesity) was similar when diagnosed using the IOTF recommendations (international standards)[3] (14.4%) and national references (13.0%)[4] (p: NS).

However, when national references[4] were used, 2.9% of the study sample were overweight (3% of boys and 2.8% of girls) and 10.1% were obese (6.1% of boys and 13.9% of girls) ($p < 0.0005$). When international reference tables[3] were used, 10.1% of subjects were overweight (9.1% of boys and 11.1% of girls) and 4.3% were obese (3% of boys and 2.8% of girls) ($p < 0.0005$). Thus, while national references provide a higher percentage of obesity and a lower percentage of overweight, the reverse occurs with international references, which provide a high percentage of overweight and a low percentage of obesity.

Our values are similar to those reported in the international study that designed and used the same diagnostic method[3]. This study reported prevalence rates of 5–12% for overweight and 0.1–4% for obesity in the six countries studied (Hong Kong, Singapore, The Netherlands, Brazil, USA, and Great Britain). In Spain, the results obtained by Marrodán et al.[7], using Cole et al. methodology[3] according to IOTF recommendations, in a population from Almeria aged 13–20 years showed a very low obesity rate, while overweight reached strikingly higher values as compared to those obtained using the percentile cut-off points corresponding to the different local or national references.

Despite the limited sample size, our results emphasize the significance of the methodological criteria used to assess overweight and obesity in non-adult subjects. Thus, when national curves[4] are used as criteria, overall overweight rates are lower than obesity rates, while rates of

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overweight are significantly higher than those of obesity when the BMI values proposed by the international standard are used.[3] This has drawn considerable criticism because a significant number of young subjects would not be considered to be obese and would therefore be excluded from intervention programs. International criteria are therefore not superimposable on the percentile-based criteria used in standard clinical practice, and are preferentially used for epidemiological studies.

Finally, we think that the really important thing is to call attention to the increase in overweight and obesity rates in children and adolescents in recent years. We therefore think it appropriate to use the term ''excess weight'' (overweight plus obesity) in order to include in intervention programs as many young people with this significant health problem as possible.

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