Prevalence of childhood thinness, overweight and obesity in France, using several references

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Introduction
The use of different references to express prevalence of thinness, overweight or obesity makes comparisons across studies difficult.

The aim of this study was therefore to provide recent thinness, overweight and obesity prevalence 7-9-year-old children in France in 2007 using several references.

Methodology
A cross-sectional study based on the European Childhood Obesity Group protocol (1) was conducted in 2007, in France (2).

Among the 96 French departments, 64 accepted to participate. One primary school was randomly selected in each participating department. In each school, two classes corresponding to the age categories 7-8 and 8-9 years, respectively, were randomly selected. Weight and height were measured by nurses or physicians belonging to the French educational system. A lifestyle self administered questionnaire was completed by parents.

After weighting and calibration, prevalence of thinness, overweight and obesity were calculated using various references: French (3), Cole (4), CDC (5), WHO (6) and IOTF (7).

Results
Around 3% of the parents refused the participation of their children in the study. Less than 3% of the observations were eliminated because of incomplete data. Finally, anthropometric measurements were available for 2,525 children including 49% of girls.

The prevalence of thinness, overweight and obesity in this sample of 7-9 year old children, in 2007, according to various references, is presented in Table 1.

Conclusions
Our results provide recent thinness, overweight and obesity prevalence data in France using several references.

Estimations are strongly dependent on the reference used. Prevalence of thinness is greater when using CDC references than other references. In the case of overweight or obesity, prevalence is greater when using CDC and WHO references than using French or IOTF references. These differences must be taken into account when comparing prevalence across countries.

Our present prevalence data using several references enable more possibilities of comparison with studies using single reference such as those conducted in the US (8) or in Switzerland (9), that used the CDC references only.

Table 1: Prevalence of thinness, overweight and obesity in 2525, 7-9 year-old children according to various references

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Thinness BMI &lt; centile (%)</th>
<th>Overweight (including obesity) BMI ≥ centile (%)</th>
<th>Obesity BMI ≥ centile (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>French (3)</td>
<td>Cole (4)</td>
<td>CDC (5)</td>
</tr>
<tr>
<td>Centile</td>
<td>3rd</td>
<td>5th</td>
<td>-2 Zs</td>
</tr>
<tr>
<td>Boys</td>
<td>2.9</td>
<td>1.2</td>
<td>4.9</td>
</tr>
<tr>
<td>Girls</td>
<td>2.3</td>
<td>2.0</td>
<td>5.3</td>
</tr>
<tr>
<td>All</td>
<td>2.6</td>
<td>1.6</td>
<td>5.1</td>
</tr>
</tbody>
</table>

References