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EUROPEAN ENVIRONMENT AND  
HEALTH INFORMATION SYSTEM

## PREVALANCE OF OVERWEIGHT AND OBESITY IN CHILDREN AND ADOLESCENTS

FACT SHEET 2.3 • December 2009 • CODE: RPG2\_Hous\_E2

### Prevalence of overweight and obesity in children and adolescents

The indicator measures the prevalence of overweight and obesity in children and adolescents aged 11 and 13 years. Data were drawn from the Health Behaviour in School-aged Children (HBSC) 2005/2006 survey (1), which covers 36 countries in the WHO European Region from a total of 41 countries surveyed. An assessment of the situation in the Region is given.

#### KEY MESSAGE

⊕ The prevalence of overweight (including obesity) in 11- and 13-year-olds ranges from 5% to more than 25% in some countries. Despite efforts taken by international organizations and national governments to promote awareness of the problem and to develop preventive measures, prevalence continues to increase in more than half of the countries. Most countries show a greater proportion of boys than girls being overweight.

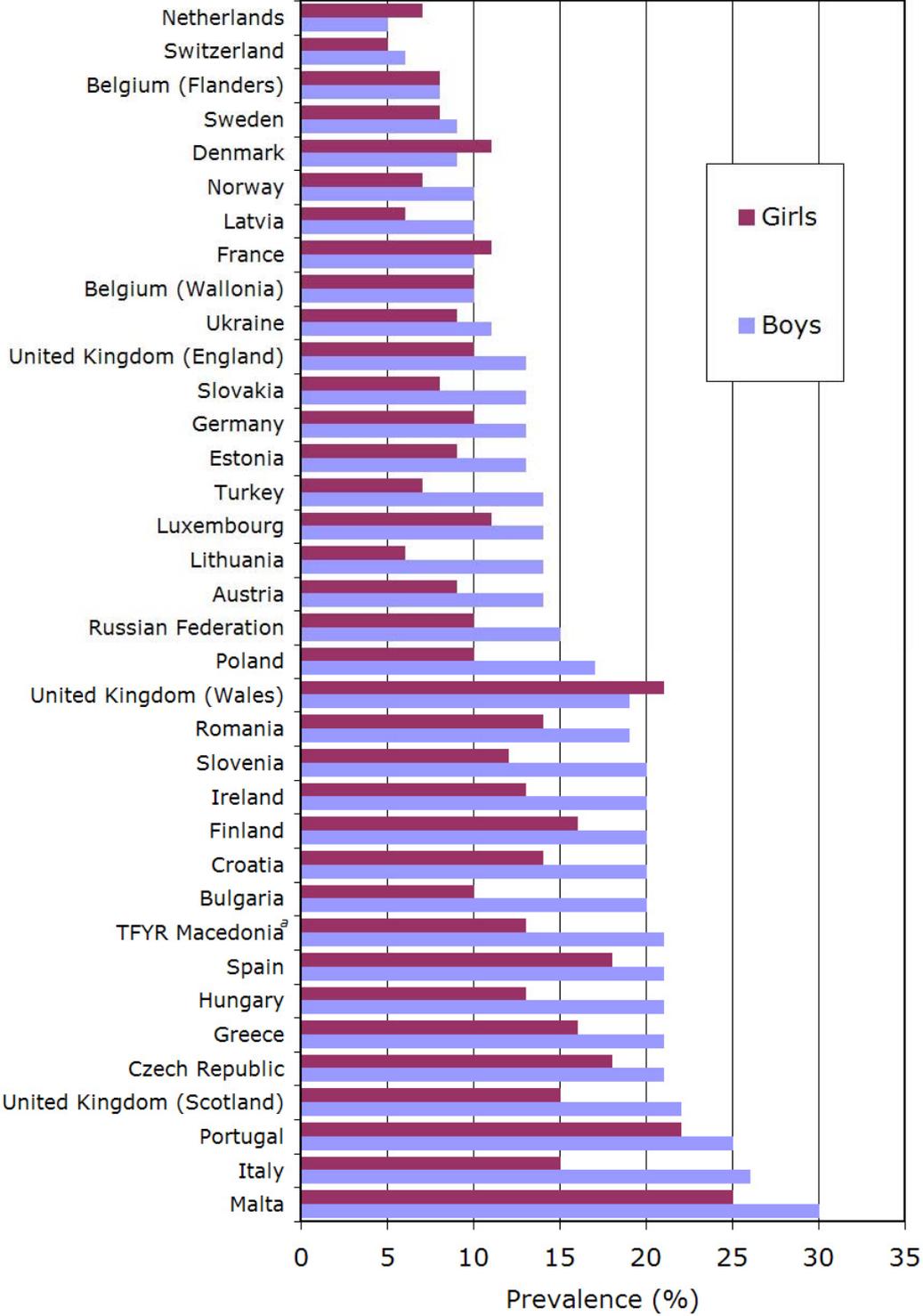
#### RATIONALE

Overweight and obesity in children and young people are major risk factors for chronic disease and are associated with an increased risk of adult obesity (2) and premature mortality (3,4). The World Health Organization recognizes that childhood overweight and obesity have reached epidemic proportions in most industrialized countries (5). The definitions of overweight and obesity are based on the percentile values of body mass index (BMI), adjusted for age and gender, corresponding to a BMI of  $\geq 25.0$  and  $\geq 30.0$  kg/m<sup>2</sup>, respectively, at age 18 years, as recommended by the International Obesity Task Force.

#### PRESENTATION OF DATA

Fig. 1 shows the average prevalence of obesity and overweight in 11-year-olds in 36 countries and areas in the Region that participated in the HBSC 2005/2006 survey (1). The prevalence of overweight and obese 13-year-olds is shown in Fig. 2, along with the prevalence in the same age group in the 31 countries and areas that participated in both the HBSC 2005/2006 (1) and 2001/2002 surveys (6).

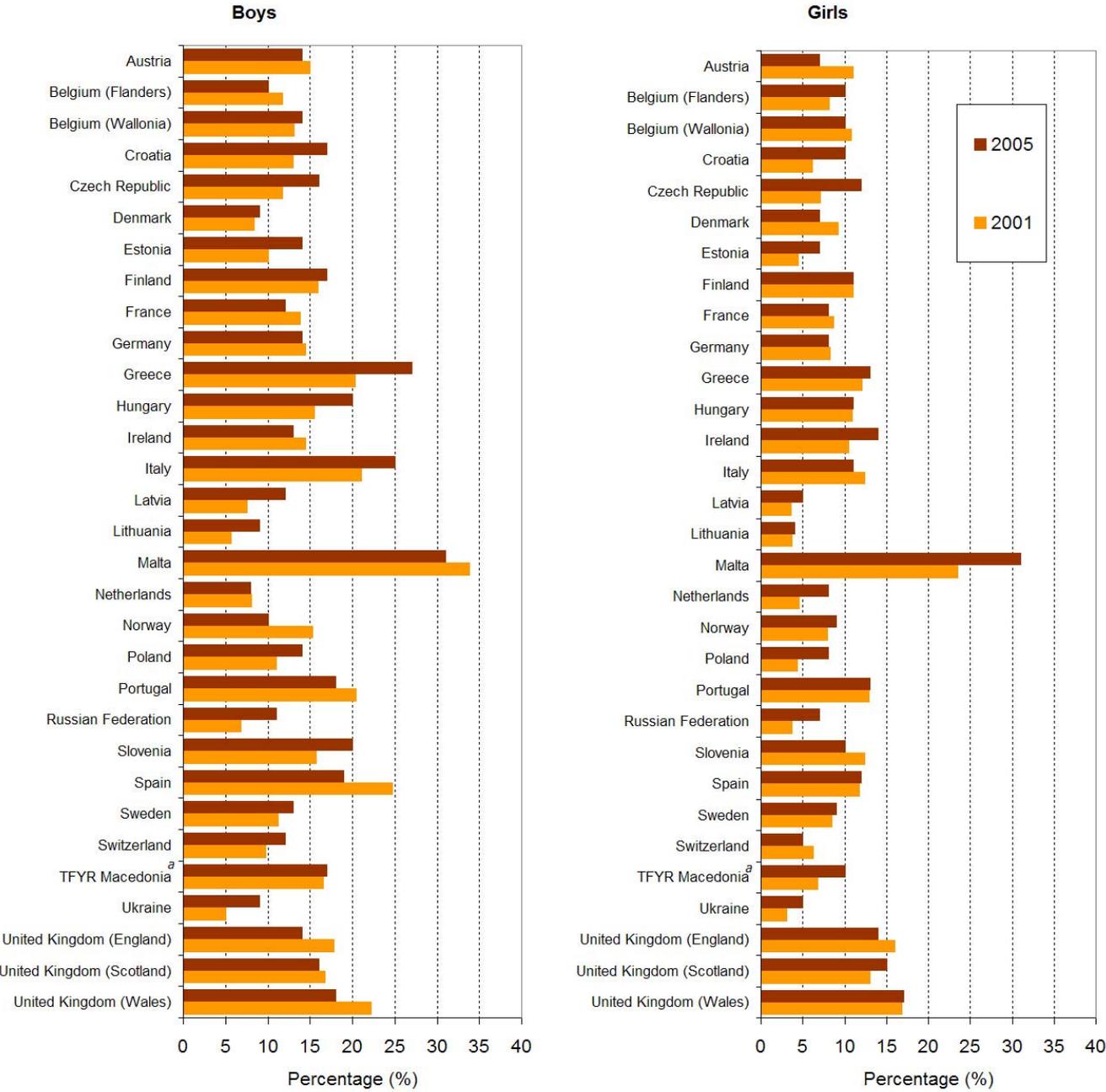
**Fig. 1. Prevalence of overweight (including obesity) among 11-year-olds in 36 countries and areas of the WHO European Region, 2005/2006**



<sup>a</sup> TFYR Macedonia = the former Yugoslav Republic of Macedonia.

Source: *Health Behaviour in School-aged Children (1)*.

**Fig. 2. Prevalence of overweight (including obesity) among 13-year-olds in 2001 and 2005 in 31 countries and areas of the WHO European Region**



<sup>a</sup> TFYR Macedonia = the former Yugoslav Republic of Macedonia.  
 Source: *Health Behaviour in School-aged Children (1)*.

**HEALTH AND ENVIRONMENT CONTEXT**

Childhood obesity is an important predictor of adult obesity (3,5,7-9). A high BMI in adolescence predicts elevated adult mortality and cardiovascular disease rates, even if the excess body weight is lost. More than 60% of children who are overweight before puberty will be overweight in early adulthood, which is of particular concern as it will probably reduce the average age at which non communicable diseases become apparent, thus greatly increasing the burden on health services which will have to provide treatment during much of their adult life (10). Worryingly, children are now more frequently subject to many obesity-related health conditions once confined to adults (11).

## POLICY RELEVANCE AND CONTEXT

Many efforts at a European level both through the World Health Organization and the European Union are being taken.

In 2004, the Global Strategy on Diet, Physical Activity and Health (5) was adopted to combat non-communicable diseases through a healthier diet and increased physical activity. Also in 2004, The Children's Health and Environment Action Plan for Europe (7), adopted at the Fourth Ministerial Conference on Environment and Health, included one regional priority goal on reducing the prevalence of overweight and obesity by implementing health promotional activities in accordance with the Global Strategy.

The European Charter on Counteracting Obesity (8), adopted in November 2006 at the WHO European Ministerial Conference on Counteracting Obesity, recognized the importance of both healthy nutrition and physical activity for preventing and reducing obesity. The Charter endorsed a vision of societies "where healthy lifestyles related to diet and physical activity are the norm" and "where healthy choices are made more accessible and easy for individuals". This means not only the classic health promotion approaches but also the creation of opportunities for daily physical activity, for example through the promotion of cycling and walking by better urban design and transport policies, or for balanced nutrition in school cafeterias.

In 2007, the Second WHO European Action Plan for Food and Nutrition Policy 2007–2012 (9), calling on countries to develop and implement food and nutrition policies, was endorsed by the Member States. The Action Plan aims to achieve the following health goals: (a) to reduce the prevalence of diet-related noncommunicable diseases; (b) to reverse the trend towards obesity in children and adolescents; (c) to reduce the prevalence of micronutrient deficiencies; and (d) to reduce the incidence of foodborne diseases.

In the European Union (EU), a Green Paper (COM (2005) 637 final) (10) was launched in 2005, together with a consultation on the issues raised by the Green Paper, with the aim of identifying the possible contribution at EU level of promoting healthy diets and physical activity.

The EU also launched in 2005 a platform for action on diet, physical activity and health (12) bringing together stakeholders from commercial, professional, consumer and other civil organizations to take voluntary action that would provide an example to others, in order to halt and, hopefully, reverse the rise in obesity, particularly among children.

Building on and supporting the EU platform for action on diet, physical activity and health and as a contribution to the consultation on the Green Paper, on 1 February 2007 the EU Parliament adopted a resolution on promoting healthy diets and physical activity: "A European dimension for the prevention of overweight, obesity and chronic diseases" (13). The resolution listed a number of actions that needed to be taken by different actors across the EU, set out proposals to reduce the number of overweight and obese people by 2015 at the latest, and asked the Commission to follow up the Green Paper with a White Paper. Responding to this request, on 30 May 2007 the Commission launched the White Paper "A strategy for Europe on nutrition, overweight and obesity related health issues", which sets out an integrated EU approach to reducing ill health due to poor nutrition, overweight and obesity, and also addresses poor diets and low physical activity levels in general (14).

To follow up and ensure implementation of the Charter, the Second Action Plan and the EC White Paper a 3-year WHO/EC DG SANCO project (2008–2010) has been established and a database will be developed to report on nutrition and physical activity including surveillance data, policies and networks, good intervention practices and the achievement of key commitments. It is led by the WHO Regional Office for Europe and the results and contents of the database will be officially endorsed by Member States.

In parallel, increasing attention is being paid to healthy and sustainable mobility as a means of promoting physical activity, preventing the environmental and health impact of transport and achieving a sustainable and health transportation system. The Transport, Health and Environment Pan-European Programme (THE PEP) created by UNECE and the WHO Regional Office for Europe in 2002, with the aim of strengthening and integrating the transport, health and environment sectors, has continued to develop and was strengthened and supported at the High Level Meeting on Transport Health and Environment, in Amsterdam in January 2009 (15). The country experiences presented in this meeting showed how sustainable transport can boost health, the environment and the economy, thereby contributing to healthier societies, sustainable mobility and wealth and to combating climate change.

## ASSESSMENT

There is a wide variability in the prevalence of obesity and overweight among countries, ranging from 5% to 30% in 11-year-olds, and from 4 and 8% in both 13 and 15 year old girls and boys respectively to more than 30% in both ages.

Boys have a higher prevalence of overweight and obesity than girls in almost all countries at all ages, except for a few exceptions: in 11-year-olds in Denmark, France, the Netherlands and the United Kingdom (Wales) and in 13-year-olds in Ireland, where girls are more frequently overweight and obese than boys. In 11-year-olds, the prevalence of overweight or obesity is 16% among boys and 12% among girls. This difference persists at 13 years of age, where the prevalence is 15% in boys and 10% in girls, and continues in 15-year-olds (data not shown).

There is little evidence of significant age differences in overweight or obesity among either boys or girls in the Region, although analysis of data not shown indicates that there is a tendency for 15-year-old girls to have lower levels of overweight or obesity than those aged 11 years. For example, in 15-year-old girls, only 2 countries have a prevalence higher than 15%, 9 have a prevalence higher than 10% and 7 have a prevalence lower than or equal to 5%. For 11-year-old girls on the other hand, 6 countries have a prevalence higher than 15%, 17 have a prevalence higher than 10% and only 1 has a prevalence lower than or equal to 5%.

A clear geographical pattern cannot be discerned from the data, although the prevalence has increased in both boys and girls in countries such as the Czech Republic, Estonia, Hungary, Latvia, Lithuania and Poland, and in Maltese girls and Slovenian boys. Taking into account that only 9 of the 12 most recent countries to become EU Member States participated in the surveys, there seems to be a worrying trend in this group of countries.

Comparison of data from the 2001/2002 and 2005/2006 HBSC surveys from the 31 countries that participated in both surveys indicates that the situation is not improving. In general, the prevalence of overweight and obesity among children and adolescents has not decreased since 2001, except for a few cases. In only four countries did the prevalence fall between 2001 and 2005 for both boys and girls: Austria, Germany, France and the United Kingdom (England). Between 2001 and 2005, there was a reduction in the prevalence of overweight and obesity in 13-year-old boys in Austria, Belgium (Flanders), France, Germany, Ireland, Malta, Norway, Portugal, Spain, the former Yugoslav Republic of Macedonia and the United Kingdom (England, Scotland and Wales); the prevalence in these countries and areas in 2001 was higher than 10%.

In all the countries where the prevalence was still relatively low among girls in 2001 (less than 5%) (Estonia, Latvia, Lithuania, the Netherlands, Poland, the Russian Federation and Ukraine) the prevalence increased after 2001. It also increased in most (13 out of 17) of the countries (all except Denmark, France, Germany and Switzerland) in which the prevalence in girls was below 10% in 2001. Moreover, it still increased in 8 of the 14 countries in which the prevalence in 2001 was above 10%. Of the 3 countries in which the prevalence in girls was above 15%, it decreased only in the United Kingdom (England) while increasing in Malta and the United Kingdom (Wales).

A similar worsening pattern can be seen in boys. There were no countries or areas in which the prevalence in boys in 2001 was below 5%, and for those with a prevalence in 2001 below 10% it increased in all except the Netherlands. In the 12 countries or areas where the prevalence in boys was greater than 15% in 2001, a fall in prevalence was seen in only 6 over the period. The prevalence continued to increase in 2 of the 6 countries (Greece and Italy) where the prevalence was greater than 20% in 2001, although it did begin to fall in Malta, Portugal, Spain and the United Kingdom (Wales).

These trends reveal the fact that, despite many international and national efforts, their positive consequences have not become apparent. Many initiatives have taken place in the last few years, including legislation, action plans and guidelines for preventing obesity. The prevalence and temporal trends in obesity reveal the need for a greater commitment on the part of countries to put into practice these recommendations and tools to address the main driving forces of this health burden, including nutrition, physical activity and lifestyle. Much effort needs to be dedicated in the next few years to making sure that the instruments available are used and implemented, as well as to assessing their effectiveness through continued monitoring and assessment of their effects.

## DATA UNDERLYING THE INDICATOR

### Data source

1. HBSC survey 2001/2002 (6)
2. HBSC survey 2005/2006 (1).

### Method of calculating the indicator

Young people were asked to give their height (without shoes) and weight (without clothes) and their BMI was calculated from this information. The prevalence of overweight and obesity is calculated as the percentage of adolescents reported to be in the weight categories corresponding to adult BMI values of  $\geq 25.0$  and  $\geq 30.0$  kg/m<sup>2</sup>, respectively, according to the cut-off points developed by Cole et al (16).

### Geographical coverage

The 2005/2006 survey was conducted in 41 countries and areas, 36 of which are in the WHO European Region. The 2001/2002 survey was conducted in 35 countries and areas.

### Period of coverage

Data from the 2005/2006 survey and from the 2001/2002 survey.

### Frequency of update

HBSC surveys are carried out at four-year intervals. The 2005/2006 survey was the seventh and most recent in the series and was conducted in 41 countries and regions. The data are collected in all participating countries and regions through school-based surveys, using the international research protocol.

### Data quality

For more information on meta-data and calculation of this indicator, please refer to the methodology.

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## FURTHER INFORMATION

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