

Has the trend of obesity reversed in the light of recent publications?



Nagy P, Erhardt E, Kovacs E, Molnar D
Department of Paediatrics, University of Pécs, Hungary

National Development Agency
www.sjzschenyiterv.gov.hu
06 40 638 638

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Introduction

During the last decades a rapid growth of the prevalence of obesity has been experienced worldwide. Based on the estimation of International Obesity Task Force (IOTF) in 2010, 200 million overweight and 40-50 million obese children live in the world¹. According to the estimation of Olshansky et al² this phenomenon itself could reverse the continuous growth of life expectancy having been observed during the past century. Regardless of adult BMI, childhood obesity itself increases the risk of non-communicable diseases in adulthood.

Objective

The aims of this review are: 1.) to give an overview of the trend of obesity during the recent years, 2.) to examine what are the possible causes of this trend.

Methods

We reviewed the recent reports about the trend of childhood obesity. We used electronical online database (Pubmed) with the search term prevalence/overweight/obesity.

Results

We found relevant data of eight countries (Switzerland^{3,4}, France^{5,6}, Sweden^{7,8}, England⁹, Australia¹⁰, United States¹⁰, China¹⁰, Hungary^{11,12}) **Figure 1, Table 1**. In Switzerland we found a significant decline in the prevalence both in overweight and in obesity during five years. There was also a decrease in the prevalence in France and Sweden. In England a plateau can be observed between 2005 and 2007. Nevertheless in the other 4 countries the prevalence was risen. Significant increasing can be detected in Australia from 1985 to 1996 and China between 1982 and 1992 as well. In Hungary a frequent increasing was reported.

According to a metanalysis carried out by Olds et al based on nine countries' 112 reports including more than 500.000 children the change of the overweight and obesity prevalence between 1995 and 2008 was 0.00% . Overall 50 of 112 reports (45%) showed declines, 60 (53%) represented increases, and 2 showed no change¹⁰.

Country	Date of survey	No. of Children	Age (years)	Applied criteria	Prevalence of overweight % (boys; girls)	Prevalence of obesity % (boys;girls)
Switzerland	2002	2431	6-12	CDC	20.3; 19.1	7.6; 5.9
	2007	2500	6-13		11.3; 5.9	5.4; 3.2
France	2000	1582	7-9	ECOG	18.1*	3.8 \$
	2007	1014			15.8 *	2.8 \$
Sweden	1985-2000	8876	10-11	Karlberg	17.1; 19.6 *	2.9; 3.0 \$
	2000-2004				15.9 &	2.5 \$
Australia	1985	70758	2-18	IOTF	10.2 +	11.6 &
	1996				21.6 +	24.3 &
	2008				23.7 +	24.8 &
United States	1999-2000	10024	2-19	IOTF	30.9 *	12.5 \$
	2007-2008				34.2 *	15.7 \$
China	1982	10307	7-17	IOTF	1.3 #	0.2 \$
	1992	15501			3.7 #	0.9 \$
	2002	44880			4.4 #	0.9 \$
England	1995	49723	2-15	UK 90	19.1 *	3.8 \$
	2005				26.4 *	7.4 \$
	2007				24.1 *	6.3 \$
Hungary	1980	3414	6-18	EPNT	11.8 *	
	1990				16.3*	
	2005				18.8 *	6.9 \$

Abbreviations: * aggregated overweight and obesity prevalence data # prevalence data of overweight boys and girls \$ prevalence data of obese boys and girls & aggregated prevalence data of overweight and obese girls + aggregated prevalence data of overweight and obese boys

IOTF - International Obesity Task Force; **CDC** - Centre of Disease Control; **ECOG** - European Childhood Obesity Group; **UK90** - United Kingdom 90; **EPNT** -Első Pécsi Nővekedési Tanulmány (Hungarian)

Table 1. Changes in the prevalence of overweight and obesity in eight countries

Discussion and conclusion

However the comparison of the prevalence data of each country is very difficult, because they used different reference values. Although in one country the trend is well predictable, because the reference was the same in the follow up survey.

If we compare the prevalence data of these countries, we detected plateauing and decreasing in many countries, but we observed that in other countries the sharp increasing was slowed as well.

The approach is to reach and maintain this favourable tendency in most countries. The authors explain the decreasing of the prevalence with 3 hypothesis. First is the intervention hypothesis, second is the saturation equilibrium hypothesis and the third one is the self-selection hypothesis¹⁰.

Our responsibility is to recognize in time the onset of overweight and obesity among children with annual screening programme.

Acknowledgement

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Aggregated overweight and obesity data

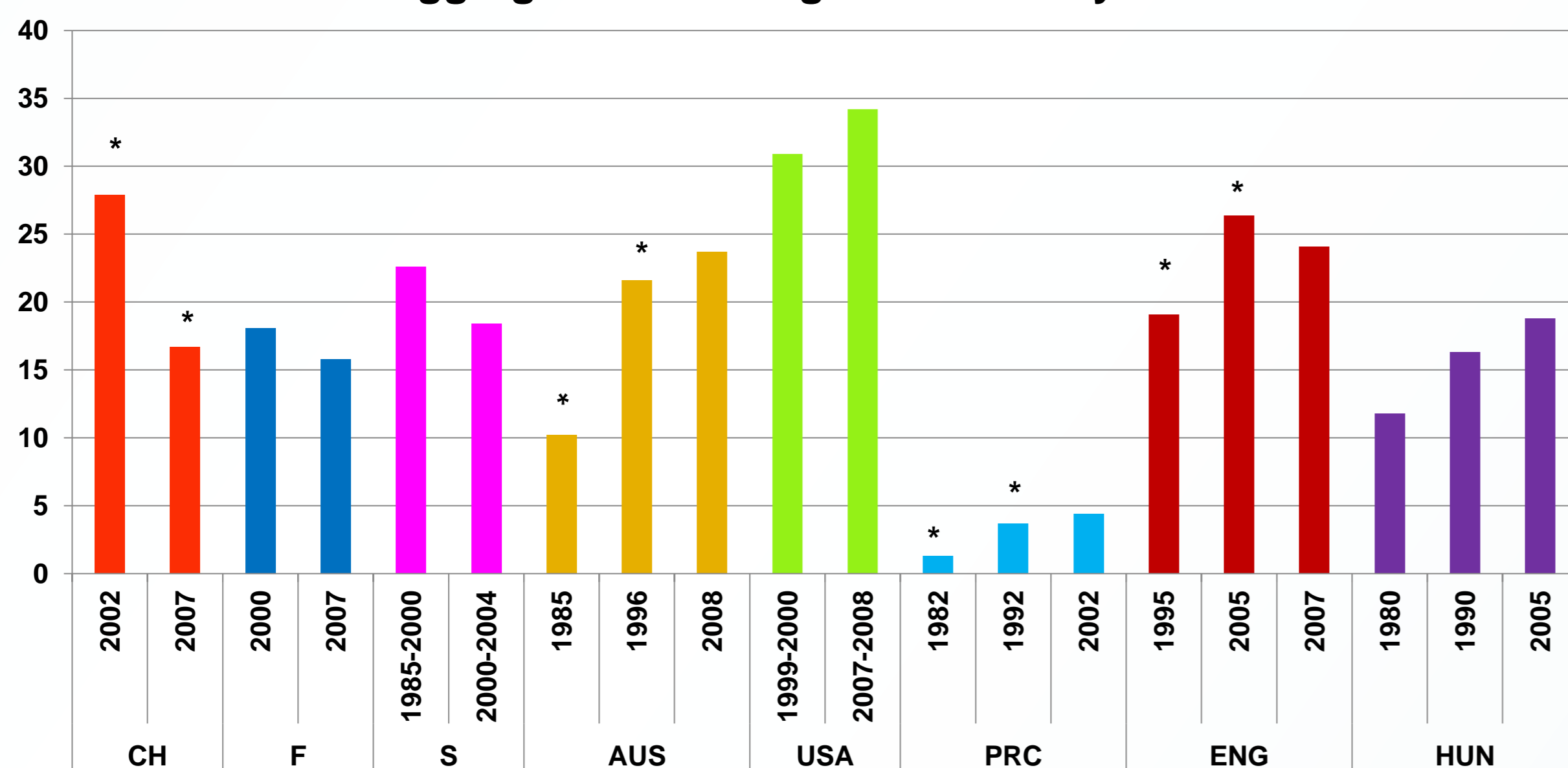


Figure 1. Trend of the prevalence of overweight and obesity

* P < 0.05

Abbreviations:

CH-Switzerland, F-France, S-Sweden, AUS-Australia, USA-United States, PRC-China, ENG-England, HUN-Hungary