Trends in obesity prevalence and body-mass index among pre-pubertal Bulgarian children (1990-2007)

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**Background**

Obesity prevalence is increasing among young children in both developed and developing countries, showing a tendency to persist with age and lead to early morbidity and mortality.

**AIM**

The aim of this study is to present the most recent trend in obesity prevalence and to investigate the changes in body-mass index (BMI) among Bulgarian pre-pubertal children for a period of 17 years (from 1990 to 2007).

**Methods**

- **Body weight and height** were measured by trained personnel using the standard procedures;
- BMI was calculated;
- **Overweight/obesity status** – defined according to the international IOTF reference (Cole et al, BMJ, 2000).

**Participants**

- Three urban representative samples of 7-9 years old schoolchildren were conducted:
  - II sub-study – children born in 1990-92 – measured in 2001 as a part of a larger obesity project;

The overweight and obesity prevalence among boys increases significantly with time

![Graph showing the increase in overweight prevalence among boys](image)

- p<0.001 for obesity trend; p=0.03 for overweight trend

The obesity trend is the same in girls, rising sharply in III gr., and the overweight trend is more sustained

![Graph showing the increase in obesity prevalence among girls](image)

- p=0.027 for obesity trend; p=0.004 for overweight trend

**Gender obesity dynamics**

No gender related difference in obesity prevalence was found during the last survey conducted in 2006/2007, p > 0.05).

**Dynamics of the 95th BMI percentile according to study group and gender**

![Graph showing the increase in BMI percentile](image)

- p=0.001

**Conclusion:**

- There is a significant increase in obesity prevalence and mean BMI among pre-pubertal children over time.
- Active preventive measures and regulations are needed to halt this positive trend of increasing childhood obesity and alleviate the burden of future diseases.

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