Obesity and public health

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Obesity – a serious health problem

• Obesity in adults a risk factor for
  - Heart disease
  - Hypertension
  - Type 2 diabetes

• Prevalence rising in many parts of world

• Hard to manage – requires change of lifestyle
  - Take more exercise
  - Eat more healthily
Deaths attributed to 19 leading risk factors, by country income level, 2004

Source: Global health risks, WHO, 2009
In 2005, more than 1 billion people worldwide were overweight (BMI ≥ 25) and more than 300 million were obese (BMI ≥ 30)

Mean BMI, overweight and obesity are increasing worldwide due to changes in diet and increasing physical inactivity

Rates of overweight and obesity are projected to increase in almost all countries, with 1.5 billion people overweight in 2015

Average BMI is highest in the Americas, Europe and the Eastern Mediterranean

Source: Global Health Risks, 2009
Obesity in children

• Less common than in adults
• But prevalence rising more steeply
• Risk factor for
  ▲ Low self esteem
  ▲ Social problems
  ▲ Skeletal problems
  ▲ Type 2 diabetes
  ▲ Adult obesity
  ▲ Adult ill health
Trends of child overweight and obesity

Methods

- Cross-sectional surveys on prevalence based on WHO standards
  - risk of overweight: WHZ >+1SD and WHZ ≤+2SD
  - overweight: WHZ >+2SD
  - obesity: WHZ >+3SD

- Data source WHO Global Database on Child Growth and Malnutrition

- Trend analysis for period 1990-2020

- 450 national surveys from 144 countries

- Coverage: 99% developing countries; 97% worldwide

- Trends fitted using linear-mixed-effect modelling

Overweight in preschool children

Source: de Onis et al, Am J Clin Nutr 2010;92:1257-64

GHH seminars
Geneva, 17 November 2010
Stunting prevalence and number affected in developing countries

Source: Department of Nutrition, World Health Organization

GHH seminars
Geneva, 17 November 2010
The double burden of malnutrition in Latin American Children

de Onis et al IJO 2004
The double burden of malnutrition
Underweight vs obesity in women in 36 high-stunting burden countries*

*Of these 36 countries, data on both underweight and obesity prevalence among adult females were available only for 29 countries

Source: WHO Global Database on Body Mass Index
Early stunting and adolescent obesity in South Africa

Source: Kimani-Murage et al. BMC Public Health 2010, 10:158
Factors leading to child overweight

Source: Monasta et al., 2009
### Maternal obesity in Early Pregnancy and Obesity in the Offspring

<table>
<thead>
<tr>
<th></th>
<th>Odds Ratio</th>
<th>(95% CI)</th>
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<tr>
<td>Childhood obesity at 4 yrs of age</td>
<td>2.3</td>
<td>(2.0 -2.6)</td>
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Source: Whitaker, 2004
BMI (AGE ADJUSTED) – RUSSIA, POLAND, CZECH BY EDUCATION

**WOMEN**

Russia, Poland, and Czech educational levels shown across genders.

- **Primary Education**
- **Vocational Education**
- **Secondary Education**
- **University Education**

Social trends that promote childhood obesity

- Increase use of motorized transport (eg, to school)
- Increase traffic hazards for walkers and cyclists
- Fewer opportunities for recreational physical activity
- Increased playing of sedentary games
- Multiple TV channels around the clock
- Greater quantities and variety of food available
- More frequent and widespread food purchasing opportunities
- Larger portions of food
- Rising use of soft drinks to replace water
- More use of restaurants and fast food stores
WHO documents on obesity

1997

2002

2006

2009
The European Charter on Counteracting Obesity

- Individuals alone are not responsible - changing the social, economic and physical environment
- Responsibility of government across sectors
- Involvement of all stakeholders
- Portfolio of interventions designed to change the social, economic and physical environment
- Portfolio of policy tools (from legislation to public/private partnerships)
- International coordination
- Special focus on children and on disadvantaged socioeconomic population groups
Global Strategy on Diet, Physical Activity and Health (2004)

- Reducing trans fatty acids and salt
- Restricting availability of energy dense foods and high calorie non-alcoholic beverages
- Increasing availability of healthier foods including fruits and vegetables
- Practice of responsible marketing to reduce impact of unhealthy foods to children
- Making healthy options available and affordable
- Providing simple, clear and consistent food labels that are consumer friendly
- Reshaping industry to introduce new products with better nutritional value
- Making physical activity accessible in all settings
Interventions in OECD and other EU countries by category

Source: OECD/WHO Europe survey of national policies to tackle unhealthy diets and sedentary lifestyles
Assessment, monitoring & surveillance

  Based on healthy breastfed children – better assessment tool that resulted in increased levels of childhood overweight/obesity

  Development of WHO Global Database on School-age children and Adolescents underway

- WHO Global Databases on BMI and Child Growth
  - World Health Statistics Reports
  - Calculating national and regional estimates
Why success is inadequate

• Policies are not comprehensive
• Policies are not coherent across sectors (e.g., agriculture):
  – Health considerations play little part in decisions farmers make about production, or agricultural ministries make about policy
  – The health sector often fails to reach out to the agricultural sector
• Policies not operationalized and implemented
  – Resources
  – Global, national and local obstacles
Conclusions

• Undernutrition remains a major worldwide public health problem while overweight is rapidly progressing in all regions of the world – the double burden of malnutrition

• Trends in underlying factors point to concerns for the future evolution of the childhood obesity epidemic (need to address social determinants)

• Prevention starting in early childhood is a critical area of work (life course approach)
Thank you

For more information

http://www.who.int/nutrition/en/index.html