Aim: Children and adolescents who are overweight (>BMI 85th percentile, which includes obesity) are a heterogeneous group and differ on dimensions measuring dietary restraint and psychopathology. In samples of clinical obese young adolescents we found that classifying children and adolescents based on psychological characteristics can be useful in making differential prognoses.

Method: The lecture will present two studies to research the validity of sub-typing young adolescents with overweight in both a non-clinical and a clinical sample.

Results: Using cluster analysis, results revealed three subtypes: a dietary restraint/internalizing group (DR + IN), a pure internalizing (IN) and a non-symptomatic (NS) group. The DR + IN group outscored both other groups on measures of eating pathology, whereas the IN group outscored both other groups on measures of negative effect. Interestingly, the three groups did not differ on degree of overweight and the same findings were found in both samples.

Conclusions: The results seem to suggest that different psychological mechanisms can be observed in subgroups of young overweight adolescents and that diet management is not necessarily the only treatment goal for all of them.

Further research should explore whether individual psychological characteristics can be helpful when stipulating specific treatment guidelines for overweight children and adolescents.

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Which BMI standards to use in practice?

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Introduction: Defining obesity consists of choosing a suitable measure of body fat, and a suitable cut-off. In contrast to adulthood, there is still no general agreement about the definition of obesity in children. In adults, fatness is usually assessed using BMI and cut-off points to define grades of overweight have been based primarily on the association between BMI and mortality[1]. Children grow in size, so that anthropometric cut-offs for fatness need to be adjusted for age. For this reason, grades of nutritional status usually refer to population distributions. Current definitions of childhood obesity: the first BMI charts were published in 1982 and updated in 1991[2,3]. In 1995, WHO recommended the references generated from data gathered in the NHANES I in the USA[1]. In 2000, the US Centers for Disease Control (CDC) published sex-specific BMI-for-age growth charts[4]. The new WHO standards, released in 2006 for assessing the growth of children from birth to 5 years of age were created from samples made up of healthy breast-fed children from various countries around the world and were intended to present a 'standard' of physiological growth rather than a descriptive 'reference'[5]. In 2007, the WHO developed growth references for 5–19-year-olds based on the 1977 National Centre for Health Statistics (NCHS)/WHO data[6]. These charts were intended for both clinical use and epidemiological studies. Previously, in 2000, the International Obesity Task force (IOTF) developed BMI centiles constructed on the basis of six nationally representative data sets to define childhood overweight and obesity[7]. The cut-offs for childhood overweight and obesity are smooth sex-specific BMI centiles, constructed to match the values of 25 and 30 kg/m^2, respectively, at 18 years. This definition was intended for international descriptive and comparative purposes only, and was not meant to replace national and international growth reference data for clinical use. Which BMI reference to use in practice? The IOTF definition, based on internationally representative populations, is widely used in epidemiological studies. Using IOTF then facilitate comparisons across studies and the assessment of time trends. Since the recent release of the new WHO standards and references, a growing number of studies use these definitions. It is worth noting that many recent studies present their data according to several definitions. For epidemiological studies, it is then recommended to present data according to IOTF, WHO and CDC definitions, in order to facilitate comparisons between studies in Europe and with US data. For clinical studies the WHO standards and references should be used, but national references can also be used in national contexts.

Conclusions: Various references of childhood obesity were published recently. Ideally the use of a common definition should facilitate comparisons between studies. Research allowing selecting the method, which is most suitable to define obesity is essential. They should be

based on studies including the long-term effects of the different BMI cut-offs during childhood. Until the adoption of an international consensus the simultaneous use of different definitions will enlarge the possibilities of comparisons between studies. Such a consensus is urgently needed.

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The role of the GP in prevention, management and treatment of overweight children: a 'big' problem

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The percentage of overweight children in the USA is growing at an alarming rate, with more than one out of three children now considered overweight, obese or even severely obese. The same trend is seen in Europe but with less-alarming statistics. Will the overwhelming epidemic of child obesity reach Europe? The most recent figures and statistics confirm the possibility. The last figures for Belgium from the 'Nationaal Voedings- en Gezondheidsplan 2006–2010' show that 18% of children between 2 and 17 years are overweight and 5% are obese, with the condition being most prevalent in the age group of 5–9 years. In this group 18% are found to be obese!

Why do we have such an epidemic situation? What is the origin of better which are the origins of this epidemic? What is the cause or which are the causes? Is it only a question of weight or is it a more complex problem? Can obese children be classified into different groups and do they have different health conditions? When is a child considered overweight, obese or even severely obese? The age- and sex-adjusted BMI helps to determine the weight of the child. We find six categories pertaining to weight, ranging from underweight (<5th percentile) to severe obesity (120th percentile and higher). BMI is not a perfect measure of body fat and can be misleading. It is a good indicator but not an exact measurement. Therefore, we need more sophisticated instruments (bioelectric impedance) to determine obesity. BMI may be difficult to interpret during puberty when children experience rapid growth. What are the effects of child obesity? Obesity increases the risk of serious health conditions and leads to marked changes in lifestyle and behaviour. Medical complications that manifest include CVD (hypertension, high cholesterol and so on), diabetes, bone and joint problems, tendency to mature earlier and so on. Behavioural, lifestyle and psychological complications include unhealthy dietary habits, eating disorders, depression and so on.

Causes of obesity: Obesity, which is becoming a serious epidemic worldwide, is a chronic disease prevalent among both children and adults, with a very complex physiopathology and involving many health complications.

Obesity leads to genetic and physiological transformations at three levels: in the cerebrum (neuroendocrine changes), in fat cells (adipokines) and in hormones in the gastroenteral tract.

Lifestyle habits play an important role in the spread of the obesity epidemic through change in eating habits, lack of exercise and overuse of electronic devises. Preventing overweight and obesity: Preventing kids from becoming overweight means changing the way the family eats and exercises and how they spend time together. Helping kids lead a healthy lifestyle begins with parents leading by example. Many kids are spending less time exercising and more time watching television and playing video games. Moreover, in the present day, families are becoming increasingly busy and devote less time to preparing nutritious meals. From fast food to electronics, quick and easy is the way of life for many people in the 21st century.

Not only the community but the individual practitioner also should play an active role in ensuring a healthy lifestyle in order to arrest the spread of obesity by taking the following steps:

- not succumbing to common food/eating traps;
- give recommendations by age;
- control BMI and undergo an annual clinical examination.

Treatment of child obesity: The AMA recommends a 4-stage approach that can be adapted to the situation in Europe.

Stage 1 – Prevention Plus Protocol
Stage 2 – Structured Weight Management Protocol
Stage 3 – Comprehensive Multidisciplinary Intervention
Stage 4 – Tertiary Care Intervention.

Many of these recommendations can be carried out by the family physicians and or by paediatricians.

However, Belgian paediatricians do not believe that treating obesity will give a good result in the long term! There is still much work to do.