

# A heavy question: how do we approach children with overweight or obesity in 2020?

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## Keywords

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## Abstract

Childhood overweight and childhood obesity are major public health problems as they increase the risk of developing metabolic problems like diabetes but also cancer, heart diseases, not only in adulthood, but some also in childhood. Next to these somatic problems, they also cause psychosocial effects, such as anxiety, depression, sleep disorders and decrease the social relationships and academic achievements of these children.

As such any health care worker who encounters a child with either overweight or obesity, should also include this observation into the clinical approach in order to prevent the possible morbidity and mortality associated with these conditions. We provide 'best practice guidelines' for paediatricians who encounter these situations in their daily practice.

Although prevalence of childhood overweight and obesity in Belgium does not show the alarming trends as in the US, preventive efforts that start in early childhood and continue during the lifespan are important. But despite the fact that Belgium performs better than average concerning prevalence of overweight and obesity, our youth has high rates of body dissatisfaction. This is an important caveat for health care workers who deal with children and adolescents. A balanced communication about a topic as sensitive as weight and eating behaviour, is a key aspect of prevention and treatment, as body dissatisfaction and dieting issues play a central role in the development and maintenance of obesity.

## INTRODUCTION AND QUESTIONS

A paediatrician will often encounter children with weight problems in daily practice. Sometimes weight gain, overweight or obesity will be the main reason for consultation, but often the weight problem is a 'secondary' finding as the child consults for other medical issues. And when a physician surveys the literature about this topic, the majority of studies, reviews and editorials concern the increase of obesity in the paediatric population, cardiovascular risk factors in relation to metabolic syndrome and the very short-lived effects of most major weight reduction trials. Many of these aspects can instil a less than optimistic attitude towards overweight and obesity in anyone who is confronted with the problem in a medical context.

Personally, I questioned some of my own practices after a recent clinical encounter with an overweight child and the questions of an inquisitive junior doctor about my handling of this 'co-morbidity' (or secondary finding). As part of my literature search, I consulted the guidelines of the CLB (the Flemish Pupil Guidance Centre) and frowned when looking at the suggested approach to this problem in their flow chart (Figure 1, Panel A). It states that when a CLB physician or nurse encounters a child with overweight during a medical check-up, she/he first has to consult previous weight measurements and if there is no recent increase in the weight of the child, she/he should 'confirm the normality'. This oddly phrased advice suggested to me that the frontline physicians in the preventative medical care of our youth would allow a child to continue life with overweight, and possibly progress towards obesity with minimal 'alarm'.

This led me to phrase three questions about this topic.

Question 1: what are the medical consequences of childhood overweight? Do these children progress towards obesity without a structured intervention? Do they have an increased cardiovascular risk later in life?

Question 2: What is the best (evidence based) approach to a child with overweight? Should you have a firm talk with the child? Explain the medical consequences to the parents? Send them immediately to a dietician?

obesity in early childhood also predicts an increased risk of suffering from metabolic syndrome in adulthood (7). Diabetes, impaired insulin sensitivity and glucose intolerance are common among children with obesity (8,9). Obesity puts girls at risk for early puberty, a higher BMI is associated with earlier onset of menarche (10,11).

## Cardiovascular system

Established cardiovascular disease risk factors such as dyslipidaemia, insulin resistance, or diabetes and hypertension are more common in children with overweight or obesity (9). Moreover, obesity correlates positively with serum triglycerides, low density lipoprotein cholesterol and insulin levels, but it correlates negatively with serum high density lipoprotein cholesterol levels (12). Interestingly, the elevated risk disappears when the child grows into a non-obese adult, highlighting the importance of intervention at an early age (13). In contrast, children who had obesity since early childhood have higher cardiovascular and metabolic risks than children whose BMI increased later in life (3). Other factors that contribute to cardiovascular disease, like arterial stiffness and carotid intima-media thickness, are also increased in children with obesity (3).

## Respiratory

BMI z-score has an inverse linear relationship with respiratory function (14). Overweight and obesity are strong risk factors for childhood asthma, while it complicates management as well (15). Additionally, obesity puts children at risk for obstructive sleep apnoea. Compared to normal-weight peers, the probability to develop this condition is 4 to 5 times greater (16). Cardiorespiratory fitness decreases with increased adiposity (9).

## Other systems

Obesity is strongly associated with non-alcoholic fatty liver disease (NAFLD) in children (4).

Children with overweight suffer more from fractures and are more likely to encounter complications during the healing phase. Additionally, they are more prone to malalignment of the lower limbs and experience more musculoskeletal discomfort and reduced mobility (17).

## Psychosocial

Both children and adolescents with obesity reported lower quality of life and lower self-esteem, including body dissatisfaction, compared to healthy weight peers (18). On top of this, obesity puts children and adolescents at risk for major depressive disorder. Clinical depression seems more prevalent in children and adolescents with overweight and obesity (19).

Experiences of stigmatization play an important role in this: they are more often ostracized or bullied by their peers, teachers have lower academic expectations, and family members are more likely to make comments about their weight or food choices (20). Eating pathology can be a part of the weight problem, e.g. when negative emotions are regulated through eating behaviour, or when weight loss attempts get out of hand (21).

Therefore, medical and psychological health risks are taken into account in the Edmonton Obesity Staging System for Pediatrics (EOSS-P), which introduces several aspects of health in the assessment of childhood overweight. It also defines barriers for a positive prognosis, such as difficult socioeconomic circumstances or mental health problems in the family. More intensive or specialized treatment is indicated at a higher stage of the EOSS-P (22).

## ANSWER 2: how to approach childhood overweight and obesity in an evidence-based manner.

Paediatricians and other health care practitioners encounter a dilemma: on the one hand, they feel urged to promote weight loss, to decrease the negative health effects of excess weight during childhood and prevent the weight problem to continue in adulthood. On the other hand, they are aware of the harmful effects of body dissatisfaction and low self-esteem, and do not want to incite these feelings in children.

Indeed, an unbalanced focus on weight loss can be counterproductive. First, dietary restraint can disrupt the metabolism and homeostatic regulation of

appetite, promoting weight gain in the long run. Second, it takes resources to restrain oneself from eating, and these resources tend to be depleted in a context of emotional stress or fatigue. This can be followed by loss of control and binge eating. Third, the causes of overweight and weight gain are multifaceted and complex. We want to address the determinants of the problem, not the biomarker. Fourth, a focus on weight loss communicates that weight is malleable and controllable, with enough will power, and overweight is a 'bad' thing. It ignores the fact that changes in lifestyle do not necessarily translate in weight loss, even when overall health is improved by this lifestyle. Thus, overweight can reflect a past state of malnutrition, and families with overweight can have a healthy lifestyle. This is in stark contrast with the common view in society that associates overweight with poor lifestyle choices (23).

When health care practitioners advise how to decrease caloric intake and increase exercise, without inquiring about the current lifestyle or the psychosocial factors that impact lifestyle choices, they unintentionally fall into the trap of stigmatization. What is the alternative? Basically, a shift from focussing on weight (loss) to focussing on health (improvement) in every communication and using techniques that stem from motivational interviewing and related theories (24–26). Furthermore, a focus on caloric restriction is replaced by diet quality, embedded in healthy lifestyle in a broad sense: eating behaviour, exercise, sleep, stress regulation/relaxation and investing in more several domains of self-worth (academic, relational, recreational...). A decrease in overweight is not a goal in itself, but a possible consequence of healthy lifestyle (change). The benefit of this approach is that it is:

- more effective in the long run, as lifestyle changes can more easily be maintained than dieting behaviours and do not cause weight cycling
- more motivating, as health and fitness improve even in the absence of weight change, and there is a broader range of parameters that can mark improvement
- destigmatising and inclusive for all patients, as normal weight does not guarantee healthy lifestyle or the absence of health risks,
- protective against a broad range of health problems, including eating and weight problems, this way reinforcing the preventive role of child health care

How does this translate to the paediatrician's daily practice? First, it is important to start with a broader inquiry about the child's well-being. Next, you can ask whether the child is curious about their growth, before you communicate weight and height as part of your routine clinical conversation. It is important to show the evolution of weight and height, not just the child's BMI at one point in time. This way, the conversation about weight is framed within a normal concept of growth and development. This is called a "normalizing approach" which was referred to in the introduction. Further, it is possible to identify sudden increases or declines, which are always a topic for further inquiry, either for medical reasons or because they mark a change in eating and/or exercise behaviour. And these changes warrant screening for eating disorders. Thus, a normalizing approach by no means implies ignoring the possible impact of childhood overweight and allowing the child to progress towards childhood obesity. This is also the approach adopted by health care practitioners at the pupil guidance centres (CLB/CPMS). We have to take into account that the relationship between health care practitioners and pupils at a pupil guidance centre does not originate from a child or parent's request for clinical care as in the physician office. It is part of the regulatory health care follow-up within the Belgian educational system. This approach strengthens the relationship between the young patient (and their caregivers) and the health care provider, which lays the foundation to discuss future health concerns. It also responds to a basic need in human being to feel accepted by and connected with others, which supports motivation. In Figure 1 Panel B one can find the adjusted flow chart, where the confusing 'normality' approach has been replaced with one that focuses on a healthy lifestyle.

To create a non-judgmental and weight-friendly environment, it is helpful to pay attention to language (person-first language, e.g. a child with overweight; avoid terms with a negative connotation such as 'fat') and to possible triggers for guilt or shame in the environment. Those triggers include fashion

CONCLUSION

It is clear that childhood overweight holds significant risk for children's health and socioemotional wellbeing and deserves attention from policy makers and early intervention from child healthcare practitioners. Although prevalence of childhood overweight and obesity in Belgium does not show the alarming trends as in the US, preventive efforts that start in early childhood and continue during the lifespan are important, with specific attention towards groups at risk. Communication about a topic as sensitive as weight and eating behaviour, is a key aspect of prevention and treatment, as body dissatisfaction and dieting issues play a central role in the development and maintenance of obesity. Furthermore, body dissatisfaction in Belgian youth is high. Strategies that moved away from a focus on weight loss and towards a focus on health improvement are fundamental in a childhood obesity approach that avoids causing harm on other aspects of children's wellbeing. In Belgium, efforts have been made to include health improvement in every aspect of children's life, including the school environment and child health care services. This allows building a supportive relationship with health care practitioners from an early age on, where questions and concerns about eating behaviour and weight are framed within a normal concept of growth and development.

Insert 1. The 5 As of obesity management (Adapted from the Canadian Obesity Network: <https://obesitycanada.ca/5as-pediatric/>)

The 5 As of obesity management (25), which were adapted for a paediatric population by the Canadian Obesity Network, can help in building our weight-related conversation and assessment:

- 1. Ask** for permission to discuss weight. This is as straightforward as "would it be OK if we discussed your (child's) weight?" Enquire in a non-judgemental way about experiences and efforts already made. Don't assume the child or their family have an unhealthy lifestyle.
- 2. Assess:** do not only assess weight (the evolution of the child's BMI for age), but also causes, health risks and barriers on the several domains of health: physical health (including metabolic and musculoskeletal aspects), mental health, and socioeconomic factors. The EOSS-P can be a useful tool in this.
- 3. Advise** on the benefits of healthy lifestyle with a focus on improvement of health risks in the short and long term, instead of aggressive weight loss practices promoted by the diet industry. This means a step-by-step approach, in which every step must be feasible at this time point and sustainable in the long run, preferably at a family-level. Treatment options in the area, to support these changes and to treat underlying causes or risks, can be discussed.
- 4. Agree** on a realistic treatment goal (improvement in certain health risks or symptoms: stabilizing or slowing down weight gain) and on a plan to achieve health improvement. Depending on the risk profile and the cause, the child health care practitioner and the family can already agree on one or two small feasible steps that the family can implement in their current lifestyle. To optimize motivation, this step is based on the efforts already made by the family and the family can choose between multiple possibilities.
- 5. Assist** in identifying and tackling barriers (e.g. accessibility of recreational activities) and in getting support from other health care services, such as dietary and/or psychological counselling, or referral to a paediatric multidisciplinary team.

Insert 2. Useful resources (in Dutch)

TVMWJ – Standaard gewicht: monitoring weight at school. See <https://www.wmjb.be/gewicht>  
Eetexpert – draaiboek CLB: includes useful handouts to support the conversation about weight during routine check-ups. See <http://www.draaiboeken.eetexpert.be/db-draaiboek-2018> ("overzicht fiches")  
Eetexpert – INNOVATE: waiver with a brief practice guide on how to approach childhood overweight in primary care. See [https://eetexpert.be/wp-content/uploads/2020/05/Fiche\\_innovate\\_eetstijl-n.pdf](https://eetexpert.be/wp-content/uploads/2020/05/Fiche_innovate_eetstijl-n.pdf)

magazines that promote the thin ideal and fat diets. Chairs without armrests are more comfortable for people with overweight or obesity, and examination equipment and scales should be appropriate for a range in body sizes (20,26). Last but not least, the reasons to consult a health care practitioner in children with overweight or obesity can be equally varied as in children without overweight. A possible pitfall in a consultation with a patient with overweight, is to automatically attribute health complaints to weight or lifestyle. Keeping an open mind in every patient is maybe the core advice against stigmatisation and to protect child physical and mental health (20).

ANSWER 3: the epidemiology of childhood overweight and obesity in Belgium

Alarming messages of an obesity epidemic in the United States, where obesity rates in children and adolescents are as high as 18.5%, are not transferable to Belgium (27). The Belgium Health Interview Survey, conducted every four years, monitors weight status among other parameters of public health (28). The most recent data gathered in 2018, based on self- or parent-reported weight and height, show that on a national level, 19.0% of children between 2 and 17 years old have a weight status above the normal range for their age and gender. One in three of them (6.8%) classify as obesity (see Table 1). Although since 1997, the prevalence in Flanders and Wallonia have been fairly stable, there is a rise in the Brussels capital region. Furthermore, lower parental education, as an indicator of lower socioeconomic background, is a clear risk factor for childhood obesity.

Recently, the Flemish government published detailed information on the BMI of children between 2 and 14 years old, based on weight and height measurement gathered by preventative health care services (Kind & Gezin, CLB), between 2011 and 2016 during routine health consultations (29). At any age, at least 78% of children in the Flemish Community have a normal weight status. Overweight and obesity increase with age, and at age 14, one in five children have a BMI above the normal range for their gender and age: 17% categorizes as 'overweight', and 4% as 'obesity'. These data necessitate the health care services to support the normal development of eating and healthy weight at an early age. Overall, these data show no general increase in childhood overweight over time, in this 5-year timeframe. More data will be added in the subsequent years, to adequately monitor the evolution of childhood overweight in Flanders.

How do these rates of childhood obesity compare with other countries? The Health Behaviour in School-aged Children Study (HBSC), a collaborative cross-national study from the WHO in Europe and Canada (30) shows that

a. Belgium performs better than average compared with other participating countries concerning several dietary health parameters, such as daily consumption of fruits and vegetables;

b. Belgium performs better than average concerning prevalence of overweight and obesity;

c. Despite these moderate levels of overweight and obesity, Belgium has high rates of body dissatisfaction.

This supports the importance of a 'do not harm' approach in obesity prevention, with careful communication about weight and dieting practices, and a focus on healthy lifestyle.

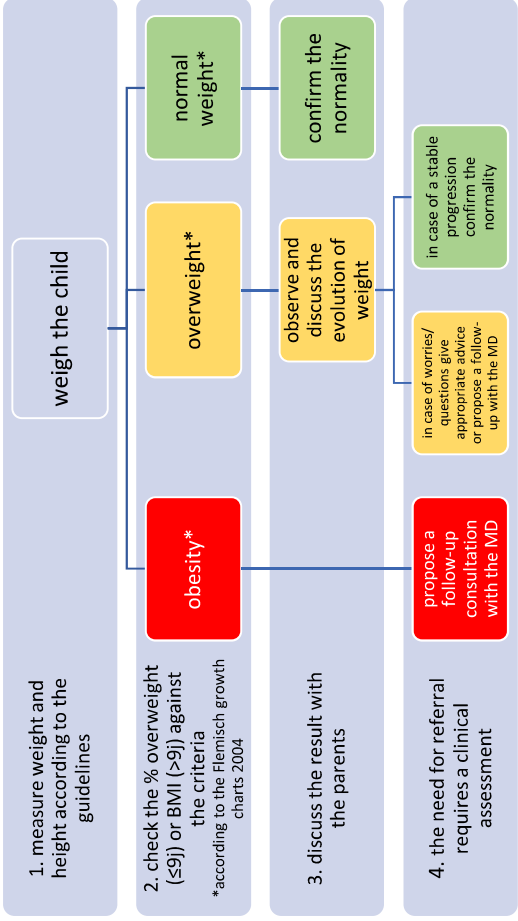
Table 1. Prevalence of childhood overweight and obesity in Belgium.

|                                  | Belgium | Flanders | Wallonia | Brussels capital region |
|----------------------------------|---------|----------|----------|-------------------------|
| Weight status above normal range | 19.0%   | 16.2%    | 20.6%    | 27.3%                   |
| Overweight                       | 13.2%   | 11.6%    | 14.6%    | 16.8%                   |
| Obesity                          | 5.8%    | 4.6%     | 6.0%     | 10.5%                   |

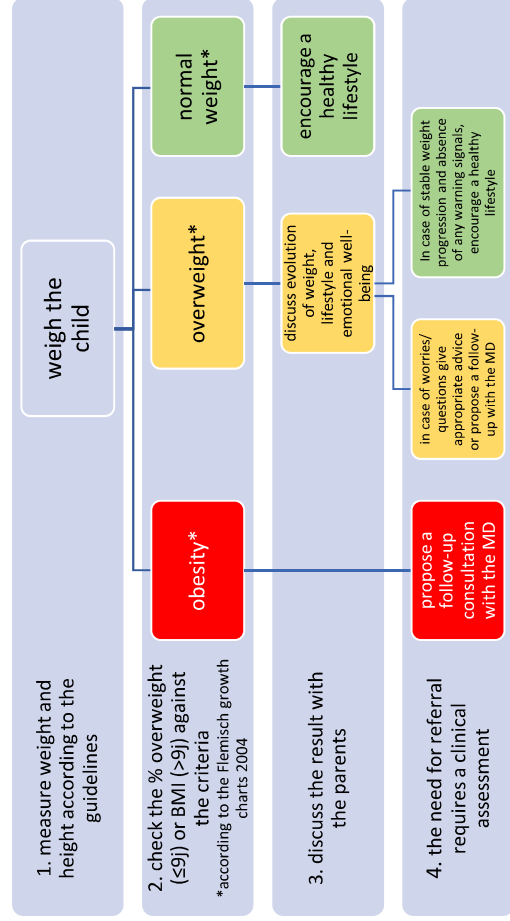
Source: Health Interview Survey, Belgium, 2018 (28).

Figure 1. Flow chart of the CLB for toddlers with normal weight, overweight and obesity, original version (Panel A) and revised version (Panel B)

A. ORIGINAL CLB FLOWCHART



B. REVISED CLB FLOWCHART



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