

policies that protect their business practices.⁴⁴ It also offers lessons on how to bring about change, highlighting what can be achieved by a global movement linking international and domestic action, involving national coalitions, NGOs, the media, and mobilisation of the public to create sustained pressure for change.⁴⁵

It is possible that success might be achieved without global regulation but it is essential that the option is not ruled out. Some elements of the food industry have adopted policies that are likely to be beneficial but there is still a very long way to go. The global public health community might usefully recall Theodore Roosevelt's advice to 'speak softly but carry a big stick'.⁴⁶

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Curbing obesity: prevention and treatment

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This viewpoint is written by two middle-aged women who have been working with obese children and their families since ~20 years, one as a psychologist and the other as a paediatrician. As we have been treating obesity in children, our focus has not been prevention. The thoughts that follow originate not only from what we have been studying and observing in our contacts with obese children and their parents, but also from what we have been learning as mothers of our now teenage children.

Obesity develops when a genetically sensitive person comes in a favourable environment. Our genes are not changing rapidly, whereas obesity has emerged as a frequent and growing problem, from young age on, everywhere in the world. The United States is on top of the list, followed by those developing countries that are making the transition to more wealth. But also in Europe the same evolution is observed. When reflecting on what has changed in our environment and how to curb this evolution, one ends up with thinking politics.

Our thoughts, described below, are 3-fold. On a macro-level, politicians will have to invest in new rules and regulations as well as in large programs which will be the only way to streamline society with all its different and conflicting pressure groups. Secondly, serving healthy food and facilitating a healthy life style should be mission statements in socialising agencies like schools, sport clubs, and summer camps. Finally, on a micro-level, all of us can model a healthy living attitude which can influence the people and especially the parents and their

children in the near environment. We will give now some examples below.

Move more

It is clear that an active lifestyle is as important as healthy eating in the prevention of obesity. Together with modification in food consumption patterns sedentarism has increased dramatically. Reasons to explain this evolution are obvious. When we were children, we could bike alone to school and back home from the age of 6 or 7 years. Our parents did not worry to let us play outside. Now, there are at least 10 times more cars, which are also a lot faster and make roads unsafe, and children cannot be allowed to bike independently.

In primary and in secondary school standard programmes offer only 2 × 50 min of sport per week. A lot of sporting facilities are available and affordable. Unfortunately, our patients tell us far too often that they stopped attending sport clubs because they were not competitive. If we want our children to retain the joy of moving till adulthood, more recreative and less competitive sporting facilities are needed. Epstein *et al.*¹ suggests an exercise programme in which mainly aerobic exercises of moderate intensity, such as cycling, swimming, walking, jogging, rope-skipping or rowing, are planned for minimum 30 min a day. Schools seem to be the best place to take responsibility for organising these daily activities for all children.

Walking and biking are important components of an active daily lifestyle. The Amish people in North America

who refuse to use electricity and motor cars have a low incidence of obesity (0% in men, 9% in women). An average Amish man walks twice as much as an average European man.² It is of course not realistic to ban modern comfort such as cars and elevators. If we want, however, to achieve the necessary lifestyle change we will need to create car free areas where people live enabling children to play outside, and we need reliable and timely public transport, safe bicycle lanes between home and school or work, shower facilities at work, and strong incentives to diminish the use of cars.

Reduce 'screen'-time to maximum 2 h a day

Research has clearly shown that obesity is inversely related to the time spent watching television. Television was introduced in our homes when we were 10 years old. Until 6 p.m. only music and a fixed abstract black and white box and line pattern was shown. At 6 p.m. 1 h of children's programme would start. It was far less difficult for our parents to restrict television viewing than it is for contemporary parents. Now several clock-round children's programmes are available. In order to restrict television viewing time, parents need to set rules and control these rules. This is a time-consuming and frustrating experience for parents, while in the mean time they have their own agenda and their own plans and duties. Trying to streamline TV watching as well as playing PC games is part of an

educating process where more and more the children seem to 'win' and reinforce their parents by stopping with wining when TV is on. Altering the so-called coercive cycles asks for a strict consequent approach, which is not in conflict with a democratic, authoritative educational approach by the parents. In our opinion messages like 'reduce TV time' are far more difficult to implement than explicit unequivocal rules (e.g. TV from 7 p.m. until 8 p.m. or 'screen-time' from 6 p.m. until 8 p.m.).

Can we stop the bad habit of eating in between?

Some children, from young age on, refuse healthy food like vegetables and fruit. When they are hungry they prefer unhealthy snacks. Anxious parents do follow the whims of their offspring. Others are simply not hungry during meals because they drink soft drinks or eat sweets in between. By consuming energy-dense snacks, it is not unusual that children eat more than they need. How to break through these bad habits? First of all, it is advisable to develop the habit of eating only at fixed hours. The National Institute for Food³ suggests the following scheme: three standard meals with balanced carbohydrates, proteins, and fat as well as two (or three) scheduled snacks. We also need clear messages with regard to healthy snacks (e.g. <100 kcal.) and beverages: drink water during all meals, restrict milk consumption to 500–700 ml/day, limit consumption of soft drinks to once weekly, and drink not more than one fruit juice a day.

Second, children are strongly advised to reduce the number of places where they eat. Researchers assume that as one eats in more situations there are more and more environmental stimuli reminding of food, whereas reducing these situations extinguishes the reminding value of an environmental stimulus. It is also recommended to do nothing else but eating during the meal and to avoid other activities such as walking around, reading, watching television, or making telephone calls. For children it is helpful to have fewer supplies in the house stored in as few cupboards as possible. Probably, it will be necessary to coach the shopping culture of many parents. Some people suggest to provide food in the market with a green (healthy, not dense in calories), red (dense in calories, 'empty' calories, not containing vitamins or minerals), or orange (not to use without restrictions, but containing valuable nutrients) sticker. If only parents have healthy food in their house, discussions

about what or how much the child can eat will be easily solved. As Satter⁴ suggests 'parents decide *what and when* their children eat, children decide *how much* they eat'.

Financing preventive programs in at-risk groups

Obesity 'runs' in families. Overweight in childhood is strongly affected by parental fatness. These families will need more specific help. Moreover, these families are more situated in neighbourhoods with low socioeconomic status, where families have more financial problems and often more stress and less free space. It can be helpful to run specific programmes together with these families where ideas are shared regarding preparing healthy food, managing the costs of healthy food, finding sport clubs, organising safe play grounds, and setting rules and having them observed. However, there is little incentive for counsellors to set up programmes if no means of financing them are provided.

Treating obese children is prevention of later obesity

Overweight and obesity in childhood have been shown to be predictive for obesity in later adult life. If the overweight can reach stability during childhood, we can prevent this evolution. Indeed, some evidence exists that effective management of childhood obesity is possible, with long lasting effects on lifestyle.¹ The treatment that shows to be effective is family based and needs a multidisciplinary approach focusing on behavioural changes. Reimbursement for these programmes will be necessary. However, meta-analyses on treatment programmes of childhood obesity indicated that few randomised controlled trials were available and long-term follow-ups were scarce. Moreover, no evaluation of tailoring treatment to specific characteristics of the children is available. It seems extremely urgent that the evaluation of non-pharmacological treatment programmes is provided by policy-makers.

Afterthoughts. . .

Research in developing and evaluating prevention programmes of obesity needs priority financing. The cost of this research will only be a fraction of what is now already spent in the treatment of adult obesity. Drugs currently available, such as those causing fat

malabsorption, are marginally effective and cost ~\$170 a month for the patient. Hospital costs for bariatric surgery in the US increased more than 6-fold between 1998 and 2002, from \$157 million to \$948 million a year. In many countries, over 50% of the adult population is overweight and it is difficult to reduce excessive weight once it is established. Obesity prevention should therefore focus on children in the first place.

The Kiel Obesity Prevention Study⁵ is one of the few programmes demonstrating positive outcomes in 5- to 7-year-old schoolchildren, by giving simple educational messages to all children and their parents. These are (i) eat fruit and vegetables each day, (ii) reduce the intake of high fat foods, (iii) keep active at least 1 h a day, and (iv) decrease television viewing to <1 h a day. School meetings were combined with targeted programmes for families with overweight and/or obese parents. However, effective prevention programmes are based on the knowledge of risk factors and causes. Even if most risk factors for the development of obesity seem to be self evident, little research is available on what to base clear evidence based guidelines for effective prevention.

Most of the ideas presented here ask an engagement of the parents of young children. During adolescence young people develop their own life style. A child is highly dependent on its parents' attitudes and guidance, whereas adolescents are strongly influenced by their peers and idols. Here, popular media people can use their influence in both directions and model a healthier life style. Some of them are already strongly involved in different charity projects and others have set up big campaigns for people or animals all over the world who need help. Because the obesity epidemic is one of the biggest problems of modern society, we must invite the media to think about their status and its influence on adolescents' life style. The media, together with the academic world can be very influential on the policy to ask for action programmes or for European guidelines. Perhaps, we hope, this will help develop a world-wide culture where healthy choices are cool and trendy.

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A checklist for curbing childhood obesity

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The insight that childhood obesity is a problem is spreading fast. Most decision-makers involved in public health are aware of the fact that obesity early in life negatively affects self esteem and increases the risk of future diabetes and cardiovascular disease although the effect of obesity on cancer risk is less well known. Thus, childhood obesity is one of our major threats to public health and will cause a reduced life expectancy in the future if we do not act now.

The prevalence of obesity and overweight has increased 3-fold or more in most western countries during the last 25 years. It is generally accepted that the changes in society involving eating habits and physical activity are crucial. No other factors are of equal importance for the understanding of the childhood obesity epidemic. Thus, it is quite simple. We have to reduce the intake of sweetened drinks, sweet, and fat snacks; go back to a more regular eating pattern without snacking between meals; and increase the physical activity. However, although simple, the realisation of such changes is so difficult that we have to realise that we have a lost generation of adolescents and adults with habits so firmly rooted that it is not possible to affect their behaviour within a democratic society. Consequently we have to focus on younger children and start immediately when they are beginning school, i.e. at 5–6 years of age.

Measures taken to handle the situation are often too toothless. One reason seems to be the general but erroneous fear that tougher recommendations may lead to increased number of eating disorders especially among girls. There are no indications that recommendations regarding good eating habits and physical activity increase the risk of eating disorders.

Another problem is that short-sighted economical considerations sometimes are more important than long-term

efforts to reduce childhood obesity. The European Union has difficulties handling the overproduction of butter and milk. In an attempt to both improve children's eating habits and reduce the overproduction of milk products, school lunches milk is subsidised. However the benefits of this initiative are markedly hampered by the fact that whole milk is three times more subsidised than low fat milk and consequently an unfortunate intake of high animal fat among children is stimulated by the EU.

The feeling of helplessness against the commercial and marketing powers of big companies such as Coca Cola and McDonald's also seems to reduce the willingness to act. However, in my opinion, a consequent use of the school as an arena to influence children to adopt a healthy lifestyle should not be underestimated. Furthermore, if schools have a firm attitude regarding sweet drinks and snacks it will be much easier for parents to have defined limits for their children as well.

What is most important if we effectively want to prevent childhood obesity, is it to modify food intake or physical activity? If we consider that a normal 10-year-old child weighing 30 kg has to walk for 3 h or run 10 km to burn the energy from an ice cream (300 kcal), it is easy to realise that increasing physical activity without a concurrent change of eating habits will be almost without effect. This is problematic both for decision-makers and parents because directions regarding restricted eating and reduced snacking may be considered more repressive and more negative than increased physical activity. Therefore most initiatives are aimed at physical activity. Of course, despite this reasoning we must not forget that there is a group of both lean and overweight children today who live an extremely sedentary life who

are in need of help to become more physically active.

My simple list of measures is not too expensive and many things can be launched without any long start-up time.

- Ban all sweets, sweetened drinks, ice cream, and energy-dense snacks from nurseries, schools, and after school care centres. Inform parents about healthier alternatives if the children have packed lunch.
- Inform parents of their duty to ban all sweets, sweet breakfast cereals, sweetened drinks, ice cream, and energy-dense snacks from daily family life and encourage them that they are good care-taking parents if they reduce irregular snacking to a minimum.
- Increase activity of daily living for children. Teach them at a young age to take a walk instead of taking the bus. Use consequently the stairs instead of an elevator together with children.
- Subsidise whole grain food and fresh fruit and vegetables. This might provide a better and more functional incentive than extra tax on unhealthy foods.
- Reduce the subsidies on whole milk and increase them on low fat milk in schools
- Identify children with a pronounced sedentary behaviour and develop methods to increase their physical activity.

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