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Other Review

Ethics and prevention of overweight and obesity: an inventory

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Summary

Efforts to counter the rise in overweight and obesity, such as taxes on certain foods and beverages, limits to commercial advertising, a ban on chocolate drink at schools or compulsory physical exercise for obese employees, sometimes raise questions about what is considered ethically acceptable. There are obvious ethical incentives to these initiatives, such as improving individual and public health, enabling informed choice and diminishing societal costs. Whereas we consider these positive arguments to put considerable effort in the prevention of overweight indisputable, we focus on potential ethical objections against such an effort. Our intention is to structure the ethical issues that may occur in programmes to prevent overweight and/or obesity in order to encourage further debate. We selected 60 recently reported interventions or policy proposals targeting overweight or obesity and systematically evaluated their ethically relevant aspects. Our evaluation was completed by discussing them in two expert meetings. We found that currently proposed interventions or policies to prevent overweight or obesity may (next to the benefits they strive for) include the following potentially problematic aspects: effects on physical health are uncertain or unfavourable; there are negative psychosocial consequences including uncertainty, fears and concerns, blaming and stigmatization and unjust discrimination; inequalities are aggravated; inadequate information is distributed; the social and cultural value of eating is disregarded; people's privacy is disrespected; the complexity of responsibilities regarding overweight is disregarded; and interventions infringe upon personal freedom regarding lifestyle choices and raising children, regarding freedom of private enterprise or regarding policy choices by schools and other organizations. The obvious ethical incentives to combat the overweight epidemic do not necessarily override the potential ethical constraints, and further debate is needed. An ethical framework to support decision makers in balancing potential ethical problems against the need to do something would be helpful. Developing programmes that are sound from an ethical point of view is not only valuable from a moral perspective, but may also contribute to preventing overweight and obesity, as societal objections to a programme may hamper its effectiveness.

Keywords: Ethics, obesity, overweight, prevention.

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Introduction

According to the World Health Organization, overweight is among this century's major health threats (1). The number of people with serious overweight or obesity is increasing steadily: in 1960–1962 an estimated 31.6% of US adults were pre-obese (body mass index [BMI] of 25.0 to 29.9) and 13.4% were obese (BMI of 30 or higher) (2). In 2007–2008, 68.0% of US adults were overweight, of whom 33.8% were obese (3). The trends of overweight and obesity among children and adolescents have increased in parallel: in 2007–2008 almost 17% of school-aged children and adolescents were obese (4). The prevalence of overweight is widely varying in different subgroups of the population: in developed countries it is notoriously high among persons with a low educational level and a low income (3). Obesity is an important risk factor for diabetes, cardiovascular disease and diseases of the locomotor system. Overweight is also related to psychological problems (1).

It is likely that many of these overweight-related health problems can be prevented. Adopting a healthy lifestyle, that is, a healthy diet and sufficient physical exercise, can prevent overweight (1). According to the World Health Organization, a healthy diet includes limiting the intake of unhealthy fats, free sugars and salt and increasing the consumption of fruits, vegetables, legumes, whole grains and nuts (5). Experts have advocated a combination of interventions to promote a healthy lifestyle: education (preferably education tailored to the target group or even to individual persons), optimizing environmental opportunities to adopt a healthy lifestyle (e.g. with respect to the infrastructure, building of houses, available means of transport, schools, work, health care and supply of food) and legal and other regulations (e.g. economic measures, or putting restraints to the supply and commercial advertisement of fattening food products). It has been suggested that extra attention is needed for special target groups in which it is more likely that interventions can prevent health problems, such as adolescents and children, or in which overweight and obesity are more common, such as people with a low socioeconomic status, and people from certain migrant groups (6,7).

Most interventions that are aimed at preventing overweight or obesity have not (yet) been proven to be effective or to have a favourable cost-effectiveness ratio. In spite of a lack of comprehensive research on the effectiveness of prevention strategies, authoritative agencies such as the World Health Organization and, in the Netherlands, the Health Council have suggested a 'common sense' approach, because of the size and the potential consequences of the obesity epidemic. Measures that are very likely to be effective should be implemented as soon as possible (6,8). However, lifestyle interventions, whether they are evidence-based or not, frequently give rise to ethical debate (9–14). The Dutch Council for Public Health and Health Care has therefore pleaded for measures that facilitate healthy choices, while suggesting reticence about measures that more or less strongly force people to change their lifestyle, because the potential social and ethical problems that may be associated with such coercive measures should be analysed first (15).

In the present article, we have made an inventory of the ethical aspects of measures aimed at the prevention of overweight and obesity. There are obvious ethical incentives to combat the overweight epidemic, such as improving individual and public health, enabling informed choice and diminishing societal costs. Whereas we consider these positive arguments to put considerable effort in the prevention of overweight indisputable, we focus on potential ethical objections against such an effort. Our intention is to point out how ethical issues may occur in programmes to prevent overweight and/or obesity and to structure these issues in order to encourage further debate. Our overview includes interventions to prevent overweight as well as interventions to prevent obesity, as both raise similar ethical issues. Moreover, prevention programmes aimed at the population at large are often unspecific about the exact target group. However, the health risks of obesity (BMI of 30.0 or higher) are higher than those of overweight (BMI of 25.0 to 29.9), which implies a distinct balancing of ethical arguments: the results of interventions aimed at obesity may outweigh ethical objections more easily than the results of interventions aimed at overweight.

Methods

We searched for interventions to prevent overweight on the Internet, in the media and in scientific medical literature. All interventions were proposed, implemented or studied after 1980, in the Netherlands or elsewhere. We included interventions that change the environment, interventions that consist of providing information or educating people, financial incentives, legal regulations and medical interventions. Our analysis was limited to 60 interventions, because at that number we felt that adding additional interventions would not provide new insights. A complete list of all interventions included and the sources we used to identify their characteristics can be found in Appendix S1. We performed a three-step systematic analysis of the potentially ethically relevant aspects of interventions. By 'potentially ethically relevant aspect' we refer to all aspects that may lead to ethical objections. Issues in public health ethics centre around 'the trade-off that can arise between, on the one hand, protecting and promoting the health of populations, and on the other, avoiding individual costs of various kinds, including physical danger, moral harm and frustrated desires' (16). First, we searched whether or not the paper or website in which the intervention was presented

included any explicit reference to potentially ethically problematic aspects. In a second step, ethical issues were identified directly by two of the authors (MtH and AvdH). In the third step of our analysis, we discussed the results of our inventory in two expert meetings. These expert meetings were attended by policymakers, physicians, representatives from health insurance companies, researchers, ethicists and representatives of organizations of obese people. The first meeting was focused on the extent to which the problems we identified are exclusively related to prevention of overweight and obesity; this meeting was attended by 14 experts. The second meeting was focused on prevention of overweight and obesity in children; this meeting was also attended by 14 experts. Prior to the meeting, the experts received our inventory of programmes. During the meeting there was discussion on the basis of statements that we presented (see Appendix S2).

Results

The interventions that were included in our analysis are presented in Table 1. We identified and analysed 58 concrete interventions and two policy proposals. Eighteen interventions were aimed at promoting a healthy diet; 14 were aimed at physical exercise and 28 targeted both behaviours. Interventions were aimed at the population at large or at specific groups, such as employees, children or their parents, people with a low socioeconomic position or people from ethnic minority groups.

The following eight potentially problematic aspects were identified. Table 1 provides an overview of them, including examples of programmes for each aspect and the ethical values at stake.

Physical health

A potential problem of programmes to prevent overweight that was frequently identified is that their effects on physical health are not known or not favourable. Ineffective programmes should of course not be implemented, and should certainly not be financed by public means. But much more often we deal with programmes that may have positive results, whereas this is not certain. Many publicly financed programmes are not supported by evidence. Few programmes have been evaluated, and for programmes that have been evaluated, such as the 'balance day-campaign' (17), cost-effectiveness is often hard to prove or even doubtful. Lack of scientific evidence frequently leads to discussion about whether or not to continue a programme. When government subsidy for a Dutch clinic for obese children was stopped because of insufficient scientific evidence, opponents objected that practice showed positive results, which could only be monitored if subsidy would be carried on (18,19).

Furthermore, certain programmes to prevent overweight may have harmful side effects on physical health, and thus threaten the value of well-being. Sometimes, health risks are taken for granted because the risks of non-interfering are even higher, for instance when the British government recommends bariatric surgery and medication for exceptional cases of childhood obesity (20). Harm to health may also occur because of prevention programmes that have a negative and problem-based focus on overweight, according to O'Dea (21). Next to probably contributing to weight concerns, unhealthy types of dieting and eating disorders, they may discourage overweight people from visiting health services or from practising physical activity (21). The Singaporean Trim and Fit programme, for example, was criticized for potentially contributing to eating disorders (22,23).

Finally, the intended effects of commercially financed interventions may at least partly relate to providing the producer with a positive and responsible image. Examples are fast food chains that provide free pedometers (24), and children's summer camps for weight loss that are financially supported by a fast food company (25). In some cases this so-called 'image boosting' ultimately may serve the goal of increasing the turnover of overweight-inducing products. The World Health Organization calls for controlling the promotion of dangerous and deliberately deceptive approaches to weight loss or control, such as special weight loss aids, 'miracle-cures' and certain drugs and treatments often offered through unlicensed weight loss centres (1). When the public are actually misled about a programme's aims, this conflicts with the ethical values of truthfulness and transparency.

Psychosocial well-being

Overweight prevention can, in some cases, have various negative psychosocial consequences, such as uncertainty, fear and concerns about the health risks of overweight and obesity, stigmatization and blaming, and unjust discrimination.

Uncertainty, fear and weight concerns

The focus on the health risks of overweight and obesity has drawn body weight into the medical sphere. The bodily state of weight has more and more become an indicator for health. Whereas overweight children have always been bullied during gymnastics, today they are also being put on a weighing scale and sent to a medical doctor. Informative campaigns about the health risks of obesity confront healthy people with health risks that they currently do not experience and which they may not even encounter in the future. For mothers-to-be who consult a doctor about pregnancy, body weight is examined as an indicator for the future health of their child-to-be. This focus on health risks

Table 1 Ethical issues, examples of programmes, values at stake

Ethical issue	Subissue	Examples of programmes	Ethical value at stake
Negative effects on physical health	No evidence-based cost-effectiveness	De Balansdag (27) Heideheuvel clinic (22)	Well-being
	Negative effects on physical health	Stomach surgery and medication (32) Trim and Fit (1)	
	Boosting the image of the producer	Children's summer camps for weight loss (41) Free pedometer supplied with hamburger (11)	
Negative psychosocial consequences	Uncertainty, fear and worries	Website's quote: 'Overweight diminishes the chance to a long, healthy and happy life' (25) Cholesterol test in supermarket (59)	Well-being Privacy Respect for persons Truthfulness Justice
	Stigmatization and blaming	Trailer Jamie's school dinners (1)	
	Unjust discrimination	Firing stewardesses (34) Firing police officers (35) Higher insurance premiums (37) Higher prices for overweight aeroplane passengers (38) Grouping children at normal and overweight tables during recess (1) Body mass index grade on school report card (46) Withholding university diploma's from overweight students (57)	
Inadequate information		De afvallers (8) Promotion of products without fat but with a lot of sugar (general example) Promotion of quick fixes for overweight in the form of slimming products that discourage people from practising a healthy lifestyle (general example)	Truthfulness and transparency Autonomy and informed choice Well-being
Cultural and social value of eating disregarded		Ban on birthday cakes in schools (39) '5 am Tag' campaign (47)	Respect for cultures and value pluralism Well-being
Inequalities aggravated		Fat tax (5) Responsibility contract Medicaid (17) Free swimming sessions (45)	Justice and fairness
Privacy disrespected		Weight grade on report cards (46) Electronic child file (15) Work-based programmes that focus on individual behaviours such as health risk assessments (19)	Respect for the personal life sphere: privacy
Complexity of responsibilities disregarded	Individual	Responsibility contracts Medicaid (17)	Balance between personal and collective responsibility Just division of responsibilities between government, schools, industry, civil society individual
	Parents	Parents step up (14)	
	Intermediate organizations such as schools, municipality or social healthcare services	Compulsory cooking classes in the curriculum (48)	
	Industry	Labelling restaurant calories (6)	
Liberty infringed	Regulation and laws	Ban on trans fats in restaurant menus (50) Ban on soda and snack vending machines in schools (3) Fat tax (5) Foster care for obese child (55)	Respect for the personal life sphere: autonomy and freedom of choice Freedom of action for corporations Value pluralism Justice: being consequent
	Changes in physical environment that close down options	Banning cars from city centres and around schools (42–44) Slowing down the elevator in a company building (51) Designing office building that encourages walking (52) No fast food strip in business area in south-east Amsterdam (4)	
	Financial triggers	Fat tax (5) Bonus for police officers who lose weight (36) Financial bonus for townsmen who lose weight (54) Higher insurance premiums on the basis of body mass index (37) Tax on aeroplane tickets for overweight passengers (38)	
	Psychological motivation	Caloric information on restaurant menu (6)	
	Social influence	Sneaky fitness (2) Promoting practising sports by children by famous soccer players (28) Offering employees weight loss drugs (53)	

may create excessive and unwarranted fear and weight concerns (26). A website's quote: 'Overweight diminishes the chance to a long, healthy and happy life' (27) aims to motivate people to lose weight, but how will it affect people who want to lose weight but do not succeed? Unsuccessful efforts to change one's lifestyle may result in feelings of uncertainty and powerlessness. Slightly overweight people may come to think that the health risks of severe obesity also apply to them, and people may lose sight of the line between the health consequences of occasionally versus continuously snacking. As one example, when the Dutch Heart Association organized cholesterol tests in supermarkets, concerns were raised that this action was ineffective, causing unjustified confidence and unnecessary concern (28).

Stigmatization and blaming

Being overweight is a highly stigmatized condition, which means linking individuals to negative stereotypes. Overweight persons are the victim of childhood teasing and bullying, avoidance by other people, discriminatory hiring practices and misplaced humour (29,30). Overweight persons are frequently presented as being unattractive and they are associated with negative character traits such as laziness and stupidity (31). Take for instance a television spot for the promotion of Jamie Olivers' programme to prevent overweight, where Jamie Oliver is portrayed as an obese person who drives to a snack bar and swallows a bunch of hamburgers, and consequently breaks through his motorcycle that buckles under his weight (32). On the surface, the television spot is merely a funny way of getting attention for a television programme to prevent overweight. However, it could also be interpreted as expressing the implicit message that overweight persons are unattractive, lazy, silly and can only blame themselves for being overweight. Another action to prevent overweight that potentially blames the individual for being overweight is a bill in Mississippi that makes it illegal for restaurants to serve obese customers (33). Not only may stigmatization and blaming messages contain subjective or even inadequate information, but also they are often extremely hurtful and show a lack of respect.

Discrimination

Overweight persons are regularly treated differently from normal weight persons. Overweight could for instance be used as a criterion to fire people from certain professions, which happened to stewardesses (34) and police officers (35). Overweight persons may also have to pay higher insurance premiums (36–38) or higher prices for airplane tickets (39). This gives rise to the question of which grounds and circumstances justify discrimination and which do not. Some Singaporean schools that participated in the before mentioned Trim and Fit programme grouped children at normal and overweight tables during recess (22,23). Discrimination may undermine psychological well-being, but it also involves ethical objections based on the value of justice. An American high school includes on its report cards a 'Weight grade' that indicates the child's BMI, evoking angry reactions from parents (40). And at an American university, more than 20 students are in jeopardy of not receiving diplomas because of their overweight (41).

Equality

In general, measures to prevent overweight have a tendency to be less effective among lower educated people. In developed societies, a lower educational level is often associated with a higher prevalence of overweight and obesity (42). Although it is not a requirement for any single programme to actively pursue the aim of reducing health inequalities, it is generally considered to be a positive duty of public health to diminish existing health inequalities (43,44). The presence of health inequalities conflicts with ideas about justice and equality. Interventions that affect financial distribution such as fat tax (45) or the responsibility contracts by Medicaid (46) are likely to hit harder among people with low income. But inequalities may also be aggravated by campaigns with a positive and innocent character. For example, offering free swimming sessions (47) will not reach women from certain ethnic minorities, as long as the swimming classes are mixed. If a campaign contains information that is hard to grasp for lower educated people or people from ethnic minorities and therefore does not succeed in changing their lifestyle, it may increase already existing health inequalities (26).

Informed choice

In some cases, education about overweight and obesity involves inadequate information, including unclear, overstated, oversimplified, subjective, incomplete or even false messages. Corporations with their own agenda frequently promote products 'without fat' that contain a lot of sugar, and suggest that 'quick' fixes for overconsumption are available in the form of slimming products that demotivate people to practise a healthy lifestyle. In the rush of 'having to do something' about the problem, messages to convince people about the necessity of a healthy lifestyle are not always in accordance with the facts. Suggesting that eating healthy or, in turn, physical activity, are the solution for all problems neglects other health determinants. A real-life television programme about a competition between obese families in losing weight was criticized by the Belgian association for obese patients (Bold) because it would be distributing inadequate information, by failing to acknowledge that obesity is a disease that requires long-term medical treatment. Quote from their website (translated):

'This type of programs undermines the struggle against obesity, which is recognized as a serious public health problem by the OMS. Our leaders should urgently recognize that obesity is a disease, in order to avoid this type of deviations where inadequate information is distributed which is harmful for society as a whole.' (48) Some interventions are justified on the basis of epidemiological information that is collected at an aggregate level, and cannot be translated to individual cases without reserve. Evidence, for example, that the population-wide adoption of a healthy diet can prevent 25% of all deaths from cardiovascular disease, does not indicate that adopting a healthy diet reduces each individual person's risk with 25%. Inadequate information is problematic from an ethical point of view, as it is in tension with the value of truthfulness and transparency (49). It hampers exercising freedom of choice and autonomy and may have negative consequences on health.

Social and cultural values

Food and eating habits are related to important cultural and social values. Food is for instance consumed to celebrate, to show hospitality or as a part of cultural traditions (50). However, many public health campaigns aimed at changing people's personal lifestyles focus exclusively on the nutritional value of food, thus neglecting or interfering with such values. They alter the practice of eating from a natural and a social event into a practice that is only about the value of health. Interventions that urge individuals to make healthy choices, such as the British '5 a day' campaign and the German '5 am Tag' campaign, have been criticized for presenting the healthy choice as the only rational and valuable choice, which is thus easy to make. Such campaigns could be ethically questionable as well as ineffective if they fail to take into account the many other values that food represents to people (51).

When collectively valued practices are violated and disappear, people may feel offended in their cultural identity. This could explain the angry reactions of American parents when the tradition of birthday cakes was banned from American schools (52). Being hampered to participate in culturally and socially valued practices may also lead to an undermining of individual well-being, because these cultural traditions often are a source of pleasure and feelings of community. Moderating participation in Christmas dinner or the festivities after the Ramadan, or turning down a colleagues' birthday cake may lower calorie intake, but may at the same time diminish positive feelings of community.

Privacy

Starting in 2009, every child that was born in the Netherlands gets a digital file from youth health care, containing information about the child's health and development, including potential overweight (53). The plan was criticized for posing a threat to privacy (53). Having one's child's BMI printed on his/her school report card (40), having to provide information about one's body weight and lifestyle or being screened on overweight by company doctors also involve intervening in the personal life sphere and may thereby violate the right to privacy. Some features make requiring disclosure of personal information extra sensitive for ethical objections. Body weight, eating habits or styles of feeding and rearing children all concern very personal information. Physical contact in measuring someone's waist circumference is more personal than asking a self-reported BMI. Pressure to provide the information or lack of consent can make an intervention problematic. It also makes a difference which party collects the information (government, insurance company or employer) and whether it has a legitimate justification to do so. Work-based programmes that focus on individual behaviours such as health risk assessments may raise concerns regarding privacy issues (54,55). A final relevant distinction is whether the person whose information is required has an interest in providing it (for example to enable the general practitioner to make a diagnosis) or not (for example when information about an unhealthy weight has financial implications). In all cases, sufficient warrants must be made for safeguarding the information.

Responsibility

Any preventive programme expresses ideas about who must take action to prevent overweight or obesity: individual citizens, parents, schools, the government, the industry or a combination of these. Ethical objections arise if a programme threatens the balance between individual and collective responsibility, or if we lose sight of the fact that the responsibility for the overweight epidemic cannot be attributed to one single party. Overweight is the result of a complex web of causal factors, many of which outside the individuals' control. It is partly the result of personal and voluntary choices, and partly the result of social and environmental characteristics. An emphasis on people's personal responsibility may disregard the influence of the social and physical environment and of personal characteristics that are hard to modify or cannot be changed, such as genetic characteristics, educational level and socioeconomic status, or vice versa (1,56–58). The state-funded US healthcare insurance company, Medicaid, makes her clients sign so-called 'responsibility contracts' (59). If clients do not comply with promised health goals, they may for instance lose their right to compensation for a diabetes treatment (59). The campaign 'Parents step up' is also very straightforward in blaming parents. Under the sound of scary music, its website expresses slogans like 'And don't

blame it on videogames. You are letting your child down as a parent' (60). Obviously, a distinction should be made between attributing responsibility for the problem versus attributing responsibility for resolving the problem. However, attributing responsibility for a solution without attributing accountability for the problem may also evoke objections from stakeholders. The proposal to force schools to adopt cooking classes in schools by the British minister of health made head teachers complain that the school curriculum was overdemanded (61,62). Restaurant owners from New York were furious when they were forced to label their menus with information about calories (63,64). The weight of these objections partly depends upon the positive results of the measure.

Liberty and autonomy

The solution for the obesity epidemic is frequently sought in interventions that interfere with liberty and freedom of choice regarding personal choices, commercial actions and policy by schools and other organizations. Personal autonomy and freedom of choice are important ethical values in modern liberal societies, just as freedom of action for corporations. Interventions to prevent overweight may infringe upon these liberties in various ways. Regulations or laws are the most far-reaching form of limiting choice and include, for instance, prohibition of the use of trans fats in restaurants (65,66), banning soda and snack vending machines from schools (67,68), restricting the amount of fast food selling points in a business area (69) and banning cars from city centres (70,71). Personal choice may be influenced or limited by interventions that change the physical environment. American employers encourage walking by locating the cafetaria far away from the office or by slowing down the elevators in order to push its employees to take the stairs (72). Some programmes reward healthy behaviour or a healthy weight. Police officers from the Mexican city Aguascalientes receive a bonus of 100 pesos for every kilogram they lose, because they were thought to be too slow in pursuing criminals (73). The mayor of the Italian town Varallo offers cash money to citizens who succeed in losing 3 to 4 kg in a month (74). Other programmes punish unhealthy behaviour or an unhealthy weight, for instance by imposing higher insurance premiums for persons with a high BMI (36,37), a fat tax on products high in fat and sugar (45) or a tax on aeroplane tickets for overweight passengers (39). Policy that rewards certain behaviours and punishes others may raise the objection that it is inconsequent, because only some healthy or unhealthy behaviours are singled out while others are overlooked (58). A less obvious, but not necessarily less strong form of exercising pressure is using psychological motivation. Personal choice includes the choice 'not to know': not every restaurant customer would have chosen to be informed about the menu's caloric properties (63,64), but once she/he is informed, it is hard to ignore and still enjoy a desert like Sticky Toffee Pie. Another form of infringing in personal liberties that is not immediately apparent involves the use of social influence. This appears in various ways, from a campaign for school children where famous soccer players function as a role model for healthy behaviour (75), to straightforward peer pressure in the Sneaky fitness website that encourages employees to guide their inactive colleagues towards healthy behaviour by replacing the copying machine from their desk to another room, or by faking that the elevator is out of order (76). Programmes that are implemented in the working atmosphere are extra likely to express pressure. When employees are offered weight loss drugs by their employer (72), they may find it hard to refuse, even if participation is not required. Attempting to limit someone's actions or to require actions by someone for his or her own good is called *paternalism* (77). Paternalistic programmes evoke moral objections because not everyone equally values a healthy lifestyle. Thus, promoting health may be in conflict with pluralism of values. From a perspective of people who work in health promotion, it may be self-evident that everyone strongly values health. But health is only one of the valuable things in life and not all people consider health to be the most important one (12). Furthermore, what people consider a healthful life may vary considerably.

Programmes aimed at preventing childhood obesity often raise the question to what extent parental autonomy may be infringed (78,79). One of the most extreme examples was the case of a 14-year-old obese boy weighing 555 pounds that was put into foster care, while his mother was being arrested (80).

Discussion

Lifestyle interventions, especially regarding the bodily condition of weight, affect personal characteristics and habits. They touch upon people's feelings and core convictions and they give rise to strong ethical debate. Our analysis of 60 programmes to prevent overweight and obesity and comments in two expert meetings revealed eight types of potentially problematic ethical aspects. Four objections concern negative consequences of a programme: its effects on physical health may be uncertain or unfavourable; it may have negative consequences for psychosocial well-being, including uncertainty, fears and weight concerns, blaming and stigmatization and unjust discrimination; it may distribute inadequate information; and it may aggravate inequalities. Four objections concern disrespect for certain ethical values: the social and cultural value of eating may be disregarded; people's privacy may be disrespected; the complexity of responsibilities regarding overweight may be disregarded; and freedom regarding lifestyle, raising

children, private enterprise or policy choices may be infringed. Obviously, disrespect for such ethical values may also affect a programme's effectiveness (43) or yield unintended consequences.

These potentially problematic ethical aspects arise out of various origins. Firstly, some issues concern side effects that are unforeseen and unwanted by the designers of the intervention. They stem from a narrow focus on aiming to reduce overweight, whereby other relevant issues are lost out of sight. Think about campaigns that are essentially uncontroversial but that unintentionally contain stigmatizing pictures that could easily have been replaced if more attention had been paid to ethical issues. The urgency to find solutions for overweight and obesity, sometimes bordering on panic, does certainly not always lead to solutions that are sensitive from an ethical perspective.

A second category of ethical issues originates out of conflicting interests. For instance, a campaign that informs about the health risks of obesity protects some from gaining weight, whereas at the same time it creates fear and weight concerns among those who are already obese and have great difficulties in losing weight.

A third category of ethical issues arises out of conflicting beliefs and principles. People who feel that governments must protect their citizens against unhealthy influences will appreciate a ban on trans fats in restaurant kitchens (65,66), whereas proponents of personal and commercial liberties will object against such regulations.

In this paper we focused on potential objections against programmes to prevent overweight or obesity. However, our inventory does not show how frequently the issues actually occur, as we did not conduct an empirical analysis. Instead, we aimed to point out that programmes to prevent overweight and/or obesity may yield ethical issues, to structure these issues, and to suggest that professionals who develop and implement such programmes should pay attention to them. Nor does our study show how serious the ethical issues actually are. The fact that objections are raised does not automatically imply that a programme should not be implemented. In the first place, various and sometimes contrary opinions exist about the validity of ethical objections in specific situations. For instance, depending on one's beliefs about personal responsibility, one will think differently about asking higher insurance premiums from obese persons. The variety of moral convictions implies that programmes that involve ethical objections are not automatically ethically wrong. Ideas about values and the good life are to a certain extent influenced by ones cultural background and political convictions. This is not to say that all moral opinions about overweight prevention are equally valuable. As holds for all ethical discussions, some arguments are simply more convincing than others.

In the second place, ethical objections regularly refer to programme characteristics that also have a positive side. Banning cars from city centres (70,71) closes down options for car drivers, but opens up possibilities for bicycle drivers. Most programmes that give rise to ethical discussion are motivated by the expectation that they will be effective in preventing overweight and obesity. The message that people feel better about themselves if they manage to lose weight may be stigmatizing on the one hand, but motivating on the other hand. Fat tax poses a financial burden and infringes upon personal choice, but at the same time may provide an extra incentive for a healthy lifestyle (45). Oversimplified information is not according to the facts, but is understandable to a broader audience than a nuanced and detailed message would be. Bariatric surgery for obese children poses serious health risks, but may offer the only solution to diminish the health risks posed by obesity (20).

Awareness of the fact that certain aspects of programmes to prevent overweight and obesity may evoke ethical debate is a first and crucial step for professionals who develop and implement such programmes. The second step, which is beyond the scope of this article, is to deal with these issues and the debate they induce. This leads to the question how a professional in overweight prevention should react to ethical objections: which arguments must be taken seriously and how should burdens be weighed against benefits? Further thinking about an ethical framework for such consideration and decision making would enable professionals from overweight prevention practice and policy to be prepared for ethical objections, and if possible and desirable to prevent them. Developing programmes that are sound from an ethical point of view is not only valuable from a moral perspective, but may also contribute to preventing overweight, as ethical analysis will make public health work more effective (43).

Conclusion

Programmes to prevent overweight or obesity involve a number of potential ethical objections. Obvious ethical incentives to combat the overweight epidemic do not necessarily override these potential ethical constraints. Therefore, further debate is needed. An ethical framework would be useful for helping professionals in overweight prevention to map the ethical issues, structure the relevant arguments and make a decision about the extent to which a programme is ethically acceptable. This inventory of potential ethical issues provides a first step towards creating such a framework.

Conflict of Interest Statement

No conflict of interest was declared.

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Supporting Information

Additional Supporting Information may be found in the online version of this article:

Appendix S1. List of interventions and sources.
Appendix S2. Statements that were being presented and discussed during expert meetings.

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