Promoting healthy weight—the new environmental frontier

One of the world’s greatest tragedies is that many parts of the planet suffer from food shortages and starvation arising largely from drought, floods, corruption and conflict, yet, at the same time, hundreds of millions of people in both developed and developing countries are overweight and obese due to ‘over-nourishment’ and ‘under-activity’. Indeed the problem of excessive weight is now so common that it is replacing more traditional problems, such as under-nutrition and infectious diseases, as the most significant causes of ill-health (WHO, 2000). This growing epidemic has been observed over the last 20 years as huge increases in Body Mass Index or BMI (defined as weight in kilograms divided by height in metres squared).

Compelling evidence regarding the rate of change in obesity prevalence comes from a number of countries including North America, the UK and Australia. In the US in 2000, self-reported data (which tends to underestimate the problem) indicated that 56% of adults were overweight or obese (BMI > 25) and 20% were obese (BMI > 30). This reflects a 61% increase in obesity since 1991 (Mokdad et al., 2001). Similar trends have been observed in Canada, where the prevalence of obesity increased from 10% in 1970–72 to 15% in 1998 (Katzmarzyk, 2002). Similarly in the UK, obesity among men rose from 13% in 1993 to 21% in 2000, and among women increased from 16 to 21% during the same time period (Joint Health Survey Unit, 2001). In Australia, 61% of adults are now overweight or obese (52% females, 70% males) and 22% of adults are obese (24% females, 21% males) (Dalton et al., 2000). In comparison, the prevalence of adult obesity was only 8% 20 years previously.

Even more worrying are the accelerating levels in children. Amongst Australian children aged 10–12 in 2001, 23% were overweight or obese and 10% were obese (Crawford et al., 2002). Examination of childhood trends suggests that in Australia the prevalence has doubled in the last decade and that levels now rival the US and exceed the UK. Evidence from the US suggests that energy intake for children and adolescents has not changed significantly in the period from the 1970s to 1994 (Troiano et al., 2000), indicating that a decline in physical activity may be the main cause there. However the situation is not clear in other countries; for example, in Australia there have been changes in consumption of some foods over time, e.g. soft drinks.

As a consequence we are seeing very significant increases in chronic disease morbidity in many countries with escalating personal and health system costs. Health issues include cardiovascular disease, diabetes, cancers and mental health problems. Burden of disease estimates for the impact of obesity, inactivity and poor nutrition indicate that they are responsible for at least 10% of current health problems, and are at least equal to the contribution of tobacco (Vos and Begg, 1999). The growth in type 2 diabetes is particularly worrying. The alternate description of ‘maturity onset’ diabetes is now misleading, as cases are now apparent in adolescence. The relative risk of developing diabetes with a BMI of 31 is >25 compared with a normal weight person, and >50 for a BMI of 35 (Colditz et al., 1995).

This growing epidemic is to a large part attributable to the rise of ‘obesogenic’ environments (Swinburn et al., 1999). Environments that promote obesity are multi-level and multi-factorial and have occurred through changes to social, cultural, physical and economic conditions. These range from growth of labour-saving devices, increased use of motor cars, availability of television and computer games, decline of physical activity opportunities within schools, agricultural subsidies for high fat products, poor quality and high prices of vegetables and fruit, misleading or inadequate food labelling, changing patterns of
family eating, increased food serving sizes, concerns about personal security resulting in home-based activities, less physically active occupations, and increased availability of high fat take-away foods, to name a few.

One major environmental concern is the massive promotion of high energy snack foods and soft drinks to children by the food industry. Television is both pervasive and persuasive and can be very effective in communicating to children. In Australia an average child watches 2.5 h of television and 75 adverts per day or 25 000 per year (Royal Australian College of Physicians, 2001). Children are now exposed to more advertisements on television than by any other means (Kundel, 2001). Children under 8 years of age cannot distinguish adverts from the main program and accept them to be true (Liebert and Sprafkin, 1988). There is evidence that television advertising targeting children emphasises high energy and fat rich foods (Kotz and Story, 1994; Taras and Gage, 1995; Wilson et al., 1999) and between 25 and 40% of all adverts are for food (Hill and Radimer, 1997). It is not surprising therefore that children who watch a lot of television are more likely to request these items (Bar-on, 2000; Borzekowski and Robinson, 2001). Not only do advertisements encourage children to pressure their parents to buy unhealthy foods (pester power), but television watching also reduces the time for exercise. More effective regulation of television advertising directed at young children is clearly warranted.

These growing concerns have led many countries to respond. For example the US Surgeon General has released a Call to Action to Prevent and Decrease Overweight and Obesity (US Department of Health and Human Services, 2001). He stated:

While we have made dramatic progress over the last few decades in achieving so many of our health goals, the statistics on overweight and obesity have steadily headed in the wrong direction. If this situation is not reversed, it could wipe out the gains we have made in areas such as heart disease, diabetes, several forms of cancer, and other chronic health problems.

A Congressional Summit was organized for October 2002 and President Bush is now leading a national campaign on exercise. On the other side of the globe in Australia, government sponsored summits have been held in New South Wales in September 2002 (New South Wales Health, 2002) and Victoria in October 2002 (Victorian Department of Human Services, 2002). The latter is particularly interesting as it drew on a Citizen’s Jury model, which had been outlined in Health Promotion International (Macdonald, 1998). At the same time, the International Congress on Obesity met in Brazil and came to a unanimous agreement on the need for a major political and population response to obesity as a serious epidemic.

One of the dangers in developing intervention strategies is to focus solely on individuals—be they children or adults. It is true that there is evidence for the effectiveness of high-risk programmes for preventing diabetes (Eriksson and Lindgarde, 1991; Bourn et al., 1994; Pan et al., 1997). For example, the Finish Diabetes Prevention Study Group (Uusitupa et al., 2000) achieved a greater level of weight loss in the intervention group, and the cumulative incidence of diabetes after 4 years was 11% for the intervention group and 23% for the control group (n = 522). The authors concluded that ‘the reduction in diabetes was directly associated with changes in lifestyle’. In another study subjects (n = 3234) were randomly assigned to groups with lifestyle intervention, metformin drug intervention or control (Diabetes Prevention Program Research Group, 2002). After 2.8 years, the incidence of diabetes was 11.0, 7.8 and 4.8 cases per 100 person-years in the placebo, metformin and lifestyle groups, respectively. The study concluded, ‘lifestyle changes and treatment with metformin both reduced the incidence of diabetes in person at high risk. The lifestyle intervention was more effective than metformin’.

Whilst individually focused behavioural programmes to control weight appear promising for those at high risk of diabetes, the effectiveness of weight-loss programmes for lower risk people are generally disappointing. Even if short-term improvements occur the benefits can be lost when the intervention finishes. This is patently evident by the multi-billion dollar slimming industry on the one hand, and the rapid increase in body weight on the other. Reliance on personal action alone is insufficient. Even if ‘one on one’ programmes were effective, the costs are likely to be prohibitive and unaffordable, and they are unlikely to be accessed so readily by disadvantaged groups—increasing the already apparent socio-economic differences. We must also guard against the victim blaming approach, which can lead to obese people being labelled if not bullied or demonized, and
parents could be criticized for their fat children to the point that issues of cruelty and child abuse are raised. A gain in physical health could easily be offset by deterioration in mental and social health.

A complex web of action is needed which addresses the underlying social, cultural, physical and economic determinants. Health education programmes and other personal services alone will not make a difference. Existing conditions that promote the consumption of high-energy foods, limit activity and promote sedentary behaviour are all too strong and pervasive. A combination of approaches is required, delivered in a coordinated way, with the input of a range of different sectors and organizations.

Strategies should focus on supporting parents and families, consumers and communities, schools and the education sector, health services, food industry, transport and urban design, sport and recreation, media and marketing, and local and national government.

In promoting healthy weight we need to make a giant leap forward and act creatively and boldly. Planners need to take a leaf from other public health strategies such as tobacco, road accidents and infectious diseases to see that education needs to underpin rather than lead action. The principles of the Ottawa Charter are just as relevant to the promotion of healthy weight as they are to other pressing public health issues. Supportive environments created by building healthy public policy and advocated through community action is the most promising way forward. But this will require commitment and courage. There are many vested interests to maintain the status quo including elements of the food, pharmaceutical, transport, advertising and even health and education industries.

Strong coalitions will need to be formed between health promoters, parents, fund-raisers, researchers, politicians and communities. We must guard against nihilists and procrastinators who require top-level evidence from randomized controlled trials before action is taken. Given the seriousness of the situation, work needs to commence urgently at a population level with ‘best guess’ approaches—built on available evidence—that are closely evaluated. The journey will be long and testing, but like with so many other frontiers, the adventure will be worth it.

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REFERENCES


