VIEWPOINT

Losing the battle of the bulge: causes and consequences of increasing obesity

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ABSTRACT

- Increasing proportions of Australians are overweight or obese, a problem shared by all developed and, increasingly, developing nations. Now as many people in the world are overweight as underweight.
- Increasing obesity is a serious public health as well as economic problem. Its associated greater risks of high blood pressure, heart disease, osteoarthritis, type 2 diabetes, some cancers and other health problems consume considerable proportions of healthcare budgets.
- Health inequalities often reflect social inequalities, but with overweight there is also a male–female difference in the relationship between overweight and socioeconomic status. Health promotion campaigns are underestimating the social determinants of health, and "risk fatigue" is affecting attitudes to complying with healthy lifestyle standards.
- Proposals to reverse the obesity trend, such as taxing or restricting the advertising of unhealthy foods, raise contentious issues of choice and regulation.

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AUSTRALIANS ARE GETTING FATTER, despite persistent promotion campaigns to persuade us to eat a healthy diet and be more active.

The problem

Two-thirds of adult men (67%) and over half of adult women (52%) are overweight or obese (body mass index [BMI], $\geq 25 kg/m^2$) (Box 1).[1] In 1980, these proportions were 48% and 27%, respectively (Box 2). This rise represents an average increase in weight of about 5 kg. The proportion of adult Australians who are obese (BMI, $\geq 30 kg/m^2$) has more than doubled over the past 20 years to 19% of men and 22% of women. Almost a quarter of Australian children and adolescents are overweight or obese.[2]

We share these trends with many other developed and, increasingly, with developing nations. In January 2001, the US Surgeon General announced a national action plan to be developed over this year to reduce the prevalence of overweight and obesity.[3] Of particular concern is the near-doubling of overweight and obesity among children and adolescents since 1980. According to William Dietz, Director of Nutrition at the Centers for Disease Control and Prevention, childhood obesity in the United States is an epidemic "the likes of which we have not had before in chronic disease".[4] The Worldwatch Institute recently reported that, for the first time in human history, the number of overweight people in the world rivalled the number of underweight people — there are an estimated 1.1 billion of each.[5]

Health consequences

The increased prevalence of obesity is a serious public health issue because obesity is associated with greater risks of high blood pressure, heart disease, osteoarthritis, type 2 diabetes, some cancers and other health problems.[2,3] Recent research suggests health risks increase with weight increases, even within "healthy" weight ranges.[6] Type 2 diabetes is a risk factor for cardiovascular and renal disease, peripheral neuropathy, loss of vision and pregnancy complications. The number of Australians with type 2 diabetes has more than trebled from 285 000 to 940 000 in the past 20 years, and one in four adult Australians now have diabetes or are at risk of developing it in the next 5–10 years.[1] In the United States, the incidence of type 2 diabetes, previously considered a disease of adults, especially in those over 40, has increased 10-fold over the past decade among children and adolescents.[7]

1: How obesity is measured

- The most common measure of overweight and obesity is the body mass index (BMI).[2] It is calculated by dividing a person's weight in kilograms by the square of their height in metres. Australian health authorities define adults as overweight if they have a BMI between 25 and 30 kg/m^2, and as obese if their BMI is 30 kg/m^2 or over, although there is some ethnic variation in these standards.
- The measurement of overweight and obesity in children and adolescents is more complicated, as weight and body composition change with growth and development.
- Another useful measure is waist circumference, an indicator of intra-abdominal fat ("pot belly"), which is associated with higher health risks than obesity measured by BMI. The waist measurement should be less than 90 cm for women and less than 100 cm for men.

Economic consequences

Obesity affects the economy in many ways: the excess food people eat; the marketing and advertising to encourage this overconsumption; the diet programs and liposuction procedures to deal with the consequences; the health campaigns to try to counter these trends; the demand on health services created by the diseases and illness obesity causes; the research

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2: Proportion of adult Australians who are overweight or obese (body mass index [BMI], ⩾ 25kg/m²) and obese (BMI, ⩾ 30kg/m²), by year[1]*

	BMI, ⩾ 25kg/m²		BMI, ⩾ 30kg/m²	
Year	Men	Women	Men	Women
1980	47.6%	26.7%	7.2%	7.0%
1989	51.5%	34.8%	9.3%	11.1%
1995	62.8%	43.0%	17.6%	16.1%
2000	65.0%	44.8%	17.1%	18.9%

*Trend data for Australians aged 25–64 years living in capital cities (standarised to 1991 Australian population). (2000 data cited in text are for Australians aged 25 years and over, standardised to the 1998 Australian population.)

to study these problems; and the necessary "upsizing" of public seating (already under way in the United States) to cater for bigger backsides. Liposuction procedures, with 400 000 performed each year in the United States, are now the leading form of cosmetic surgery.[5] Obesity consumed 12% of the US national healthcare budget in the late 1990s — US$118 billion — more than double the US$47 billion costs for smoking.[5] In Australia, the direct cost of obesity has been estimated as $464 million in 1989–1990 (with the inclusion of direct costs, this figure becomes $736 million).[8]

At each stage of this process, the consumer may well be making a rational choice to maximise his or her utility or satisfaction (as economists are wont to argue), and the market and government responding to consumer demand. Taken together, however, this sequence of events represents diminished quality of life, a clear case where "more" does not mean "better".

Social causes

The past decade or so has seen a surge in epidemiological studies of the social determinants of health, especially socioeconomic inequality.[9,10] People in lower socioeconomic groups die younger and suffer more serious illness than those in higher groups. The difference in risk is not simply between the poor and everyone else, although poverty is itself a cause of poor health. At any point on the social scale, people have, on average, better health than those below them on the scale and worse health than those above them. This is partly due to individual lifestyle factors: for example, people in lower socioeconomic groups are more likely to smoke, to smoke more, to drink more, to exercise less and to have a poorer diet.

There is, however, more to social influences on health than inequality. In Australia, a socioeconomic dimension to weight exists, but is not clear-cut. It also depends on the sex of the person. For women, there is a social gradient, with the proportion who are overweight or obese declining with increasing socioeconomic status (Dr Tim Armstrong, Senior Project Manager, Cardiovascular Disease and Risk Factor Monitoring Unit, Australian Institute of Health and Welfare, Canberra, personal communication). But, among men, there is no clear gradient; in fact, the most overweight group is the second highest of five social categories (Box 3).

One reason for this male–female difference may be that men are less likely than women to regard themselves as overweight, despite more of them being so. In a recent Australian study, half the men who were overweight or obese, but only a quarter of the overweight or obese women considered their weight to be acceptable.[11] In another survey, over two-thirds of Australian men defined overweight at a level higher than the current standard used by health authorities, compared with only a quarter of women.[12] A 1999 Gallup Poll in the United States also found that more women than men characterised themselves as overweight, felt they needed to lose weight, worried about their weight and were taking serious steps to lose weight.[13]

In other words, there appears to be a cultural dimension to these sex differences — different relative importance is attached to body image and to being slim. This difference may disappear at the top of the social scale, where overweight and obesity also decline among men. As average girth grows, it seems the elite are increasingly using slimness to distinguish themselves from the rest. This inverse association between social status and body size is reflected — and taken to the extreme — in the emaciated looks of growing numbers of today's leading female models, movie stars and TV celebrities. Idealising thinness and seeking meaning and control over one's body and life through fasting are implicated in eating disorders such as anorexia nervosa. Such are the cultural tensions and contradictions that confront us.

Risk fatigue?

The 1999 Gallup Poll offers interesting insights into how Americans are responding culturally to their increasing size.[13] The poll found that the average self-reported weight of the nation's adults had increased almost 10 pounds (4.5 kg) since 1990. But Americans' notion of their ideal weight has also increased, and fewer consider themselves to be overweight now than they did then: 39% in 1999, compared with 48% in 1990. A larger proportion (52% — unchanged since 1990) say they want to lose weight, but only 20% (18% in 1990) say they are actively doing something about it. In 1951, when Gallup first polled people about their weight, only 31% of Americans said they wanted to lose weight and

3: Proportion of adult Australians who are overweight or obese (BMI, ⩾ 25kg/m²) and obese (BMI, ⩾ 30kg/m²), by socioeconomic quintile (1 = low status, 5 = high status)*

Socioeconomic quintile	BMI, ⩾ 25kg/m²		BMI, ⩾ 30kg/m²	
	Men	Women	Men	Women
1	61.7%	52.8%	19.3%	23.6%
2	60.8%	49.1%	18.8%	20.1%
3	65.3%	49.8%	17.1%	20.5%
4	67.6%	44.9%	19.9%	16.5%
5	61.0%	43.5%	17.6%	13.8%

*Data for Australians aged 18 and over from the 1995 National Nutrition Survey, standardised to the 1991 Australian population. Status is based on socioeconomic indices for areas (SEIFA), which combine a range of information on the social and economic characteristics at a regional level (Dr Tim Armstrong, Senior Project Manager, Cardiovascular Disease and Risk Factor Monitoring Unit, Australian Institute of Health and Welfare, personal communication.)

19% said they were taking active steps to do so. As Gallup's report says, when it comes to weight, Americans are loosening their belts — they are losing the battle of the bulge, but seem resigned to it.

This is hardly surprising. "Healthy lifestyle" standards are becoming harder to meet as "unhealthy lifestyle" temptations get stronger. For example, the "7-a-day" program, launched in 1999 by the federal Minister for Health, is intended to persuade Australians to eat seven serves of fruit and vegetables a day.[14] Few of us come near this target. And, despite being urged to be more active, only 55% of adult Australians participated in any sport or physical activity (undertaken for its own sake) in 1999–2000 — down from 59% in 1998–1999.[15]

When it comes to reducing risk behaviours and promoting healthier lifestyles, there is a real danger of causing "risk fatigue" by asking too much of people too often. The problem with health promotion campaigns aimed at individuals is that they underestimate the social determinants of health. They also overlook the extent to which some social trends run counter to health messages, making compliance so much harder.

Dietary guidelines and exhortations to be physically active run up against increasing affluence, increasing advertising, increasing availability of "junk" food and drink, more labour-saving devices, more sedentary lifestyles and leisure activities (eg, television, computer games and the Internet), and greater concerns about the safety of children playing on the streets and in other public spaces — a complex amalgam of social, economic and cultural factors. Is it any wonder more people are giving up or failing? The food industry has not been slow to capitalise on the capitulation: in the United States a new range of treats that boast a high fat content is being labelled "food porn".[16]

What can be done?

So what can we do about this situation? Specific proposals include improving "nutritional literacy", especially in schools; varying tax on food according to its nutrient/energy content ratio to tax most heavily fatty and sugary foods high in energy and low in nutrients; using warning labels on unhealthy food products; and regulating food advertising, such as restricting or banning television advertisements for unhealthy foods during children's prime viewing time or requiring a proportional number of nutritional education messages.

The Worldwatch Institute goes further, arguing that stopping the "obesity epidemic" will require redesigning communities to restore exercise to our daily routines — for example, making public transport the focus of urban transport systems, and building more trails and paths to encourage walking, jogging and cycling.[17] Going still further, we could restrict private car access to central business districts and major venues like schools (some of these measures would also have other health and environmental benefits).

As these examples indicate, at the heart of the obesity problem, as with other public health problems, are the contentious issues of choice and regulation. Should the food industry be required to take more responsibility for the personal and social costs of unhealthy products? Should consumer choice be constrained for people's own good, and the wider social interest? The crux of the issue is how far we intervene to decrease the choice people have in managing their own health-risk factors (Dr Michael Booth, Coordinator, NSW Centre for the Advancement of Adolescent Health, The Children's Hospital at Westmead, personal communication). We already do this with tobacco, alcohol, road safety and vaccination; is it time overweight/obesity was added to the list?

Looking beyond specific countermeasures, we also need to educate the public about the quite fundamental ways in which modern society and its economy and culture can threaten our health and well-being. The story of growing obesity in Australia and many other nations reveals the complex interplay between social, economic and cultural factors which health authorities and policymakers must better acknowledge. It is a parable of the excesses that characterise our times and our way of life.

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