



Weighing up your health

It's now well established that being too fat is bad for your health. Over-eating and excessive weight are implicated in many medical disorders common in affluent nations, such as heart disease, high blood pressure, diabetes, and gall-bladder disease.

Indeed, the nation's dietary excess is a serious public health problem. In order to help assess the extent of this, and whether people are doing anything about it, two CSIRO Division of Human Nutrition researchers — Dr Anthony Worsley, now with the University of Otago in New Zealand, and Mr David Crawford — carried out a series of surveys on Australian adults in Adelaide and Melbourne.

In each city they sent a questionnaire to a thousand adults taken at random from the electoral roll. About three-quarters of these responded.

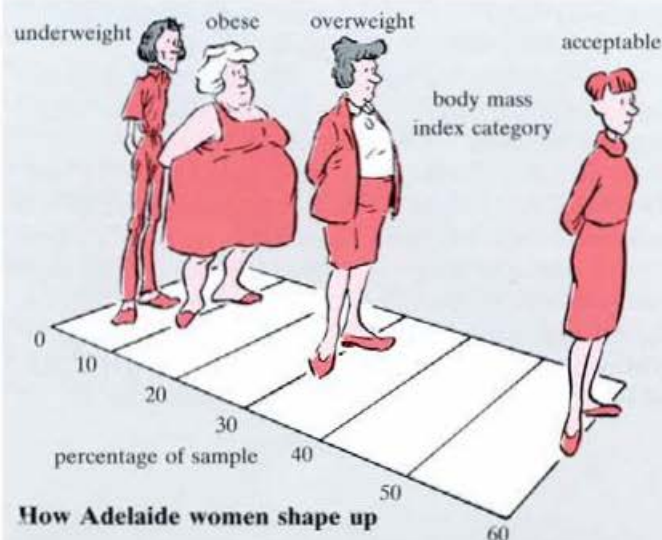
The subjects reported their weight and height, and then classified themselves on the basis of their own perceptions as 'very underweight', 'slightly underweight', 'the right weight', 'slightly overweight', or 'very overweight'.

(Previous research had established that you can rely on the accuracy of self-reported height and weight; usually people give figures that are slightly under the mark, but only by about 7-8%. We are more honest than we think!)

Using just the height and weight data the researchers calculated the Body Mass Index of the subjects. (The BMI relates a person's weight to their height to give an accurate guide to its 'correctness'.) This allowed them to categorise each subject into one of four types: underweight, acceptable weight, overweight, and obese (see the diagram below).

The results showed that, in Adelaide, about 34% of the men who responded were overweight, and about 6% were actually obese. Melbourne produced slightly lower figures, with about 25% overweight and 3.5% obese. For women, the proportion of those obese was slightly larger, being about 7% in Adelaide and 8% in Melbourne, but fewer — about 23% in each city — belonged in the overweight category.

Next, the researchers compared the actual category of body size, derived from the BMI, with the subjects' self-designated category. They



Women's perceptions of their body shapes

| | slim women | | overweight women | |
|----------|----------------------------|------------------------|----------------------------|------------------------|
| | not attempting weight loss | attempting weight loss | not attempting weight loss | attempting weight loss |
| stomach | 46 | 89 | 93 | 89 |
| hips | 32 | 80 | 85 | 92 |
| thighs | 34 | 76 | 71 | 92 |
| buttocks | 32 | 76 | 67 | 81 |
| waist | 28 | 73 | 85 | 73 |
| midriff | 36 | 67 | 73 | 77 |

Not only 'overweight' women but many slim ones regarded parts of their bodies as 'too fat'. The table shows the percentages who so regarded the parts listed.

found women particularly liable to have incorrect perceptions about themselves — almost half the women of acceptable weight regarded themselves as slightly overweight, compared with only 30% of the men. People who were genuinely obese, on the other hand, certainly tended to realise it.

The questionnaires asked the subjects what they believed their ideal weight should be, and the researchers compared this with the actual figures. Among the overweight, more women than men wished to lose weight.

But the most interesting, and in some ways disturbing, finding was that among those of acceptable weight a significant number wished to lose weight to such an extent that they would genuinely fall into the underweight category — which, like being overweight, carries health risks. This desire was particularly prevalent among 18- to 30-year-old females. In the Adelaide sample, 16% of the women in that age group — with physiologically acceptable weight — wished to shed some kilos.

It seems very likely that this is connected with the ideal of slim beauty that has prevailed in the last couple of decades in the Western world. Of all groups in society, young women face the greatest pressures to achieve a certain level of slimness, and may lack the maturity and self-confidence to resist the unnecessary dieting that fashion demands.

In another worrying trend, at the other end of the scale (literally!), many older people who were overweight did not report any weight-reduction plans. Apparently, older people see little point in trying to improve their health habits, according to an earlier survey carried out by Dr Worsley.

To follow up on some of their findings, the same researchers conducted a postal survey of randomly chosen Adelaide women to learn more about their dieting and slimming practices. The data came from 406 women, aged from 18 to 86 years.

Questionnaires asked the subjects what weight-control strategies, if any, they had practised in the past year. Exercise was the most popular, with nearly 68% opting for this — and walking was the type of exercise most

The chart shows the proportions of the women surveyed who used various weight-control strategies. Exercise was most popular.

| Weight control strategies | |
|--|--------------------------|
| | proportion of sample (%) |
| exercise | 67.8 |
| dieting | 38.2 |
| fasting | 14.5 |
| slimming tablets | 9.7 |
| attended weight-reduction organisation | 9.4 |
| diuretics | 5.9 |
| special diet foods | 5.3 |
| cigarette-smoking | 3.8 |
| laxatives | 3.3 |
| meal-replacement drinks | 2.3 |
| self-induced vomiting | 0.5 |



Your body mass index (BMI) is simply your weight in kilograms divided by the square of your height in metres. If it is less than 20 you are underweight, a BMI of 20–25 signifies acceptable weight, 25–30 overweight, and more than 30 obesity. The chart makes it easy to find out where you fit.

commonly cited. Dieting had been tried by 38%, and fasting by 14%.

Nearly 10% of the subjects had taken slimming tablets, and almost 6% reported taking diuretics (substances causing an increased loss of fluid in the urine)—a practice that can be dangerous. About 3% even reported using laxatives to control their weight! Also posing a risk to health was the

use of certain 'special' slimming diets that are known to be nutritionally inadequate.

But, on the good side, the weight-loss goals that the women reported were generally sensible, although almost one-third of the overweight women were trying to lose more than the recommended 1 kg a week. Also on the positive side was the fact that so many women

had heeded the advice of health authorities by using exercise to help control weight.

Consistent with the findings of the earlier survey, about one-third of the women who were not overweight were nevertheless attempting weight loss. Some evidence to suggest that this behaviour is due to ideals about feminine shape came from the answers to questions about which parts of their bodies subjects considered 'too fat', 'too thin', or 'just right'. ('Not sure' was also offered as a category, and about 10% nominated parts of themselves under this.)

More than half the women described their stomach, hips, thighs, buttocks, waist, or midriff as 'too fat', and 20–40% included their upper arms, knees, calves, and chin here. But less than 5% felt that any of their body parts were too thin, with the important exception of the breasts, where about 22% of the women complained that what they had was 'too thin'.

Through a different set of questions, the survey also showed that, after the family doctor, the next most common sources of advice on dietary matters for women were magazines and books. All too

often these promote an idea of slimness and means of achieving it that may be nutritionally unsound.

So although preventing excess weight is an important health goal, many women are attempting to diet for the wrong reasons. About 65% of women in the study reported that they wanted to lose weight to look better; 13% said that they were attempting weight loss to please their spouse or partner, and 11% were doing so to 'wear nice clothes'.

It seems that what many women are pursuing is an ideal 'figure' rather than a physiologically correct weight for their height — and they may be going about this in ways that are not good for their health.

Roger Beckmann

Present and desired body weights of Australian adults: a cause for concern? D. Crawford and A. Worsley. *Community Health Studies*, 1987, **11**, 62–7.

Dieting and slimming practices of South Australian women. D. Crawford and A. Worsley. *Medical Journal of Australia*, 1988, **148**, 325–31.