
THE STATE OF NUTRITION IN AUSTRALIA

Mark Wahlqvist

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WAHLQVIST In Australian society we see the co-existence of over and under-nutrition, curiously not necessarily in different individuals, but sometimes in the same individuals. On reflection that's not too surprising. When you are eating in a way that's not correct from an energy intake point of view, it's likely that the diet will also be inappropriate in other respects. You might have an excess of energy, but you might well be deficient in certain essential nutrients. To give an example, obese people who have failed to solve their problem with all sorts of programmes may ultimately come to surgery and about the time of surgical management they are vulnerable especially from the point of view of obtaining an adequate protein intake. We have actually seen examples of people who appear quite overweight developing the characteristics of protein malnutrition as seen in underdeveloped countries. Unless we are aware that these things can coexist, the problems can actually sneak up on us.

One of the problems is that nutrition has been virtually written out of the medical curriculum. This means that nu-

tritional assessment is not really part of the clinical repertoire of many doctors. There is now a recognition of the need to get it back into the medical curriculum and ongoing medical education. I think it won't be too long before there's a significant volume of doctors who are once again competent in nutritional assessment. Curiously enough, these skills are quite well developed amongst our colleagues in poorer countries who are on the look-out for under-nutrition, but we have been so blinkered to the ideas that either we have no nutritional problems or that our problems are ones of over-nutrition that we find it hard to accept that a falling protein concentration in blood might actually be due to the things people eat or don't eat. We'd think of every other reason rather than a nutritional one.

Life expectancy is still improving in Australia but it is not as good as in other parts of the western world. In Southern Europe the life expectancy among Greeks, for example, is still three or four years longer than amongst Australians; in Sweden it is still longer: they are probably the two longest living peoples in Europe. We are not doing as well as them, mainly because we have an excess of premature coronary disease, and of particular kinds of cancers, and of course we are interested in the several nutritional possibilities which may be involved in the development of these disorders. There is a growing recognition that there are several pathways to heart disease from inappropriate nutrition, not only through blood fats, but also by way of the nutritional determinants of blood pressure which are more than salt. Alcohol itself can put up blood pressure; obesity in its own right can put up blood pressure; and there's a growing interest in the way in which fat might influence blood pressure. So blood fats can be influenced by diet; blood pressure can be influenced by diet; the extent to which the blood can clot is also very responsive to diet; and maybe even the metabolism of the heart can be influenced by diet, so there are all sorts of possibilities for diet to influence heart disease.

We don't have a good representative sample of obesity in the Australian population. Estimates vary between 10 and 30 per cent of the adult population. There probably is a great deal of variation from place to place in Australia and I think this is



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going to be very important in terms of mounting prevention programmes. Not all Australians are the same.

Some rural communities may actually have more of a problem of obesity – in rural towns at least. This may be another way of looking at socio-economic circumstances; I think it's generally agreed that unemployment is often more of a problem in non-major cities in Australia, and we're coming to realise that the socio-economic disadvantaged are at more risk of obesity and of coronary risk factors in general.

WILLIAMS Now people would be surprised by that. The poor who have less money are fatter: would that suggest that they're eating the wrong foods, the cheaper foods, the take-away foods that tend to make you put on weight?

WAHLQVIST That's one possibility, but I think there are others as well. Upper socio-economic group women are subject to a great deal of pressure to be slim and they also have the means whereby they can accomplish it. Their priorities are not living from day to day, worrying about where the next food dollar is going to come from. For a poor woman it is often difficult to assign a high priority to health. Managing the family from day to day assumes relatively more importance.

About 2 to 3 per cent of Australians are diabetic. That's quite a lot of Australians. Most of them, about 80 to 90 per cent, have

what we call maturity onset diabetes, that's the kind of diabetes that occurs late in life, as opposed to juvenile onset diabetes. Maturity onset diabetes is most often associated with obesity. This group almost certainly has a strong underlying genetic tendency towards it, but whether or not it becomes manifest seems to depend on whether they become obese. What I'm really saying, in a backhanded way, is that most diabetes in Australia is preventable if we were to avoid obesity. The expression of diabetes — not its cause, but its expression — can depend on the sort of diet you have. And curiously, whereas most people think a low carbohydrate diet is best for the diabetic, we're now saying that the diet which is higher in carbohydrate is protective against the expression of diabetes. We see this on a broad sort of epidemiological scale, looking from country to country according to food intake patterns and the frequency of diabetes, but we also see it in this country on an individual basis as we change the diets of the marginally diabetic, where the diabetes is emerging. If these people increase their intake of whole-grain cereals and vegetables especially, that is, high carbohydrate foods associated with a fair amount of fibre, and of course decrease their fat intake at the same time, then their blood-sugar concentrations can improve.

Increasing the amount of absorbable carbohydrate from whatever source can in its own right improve what we call glucose tolerance, the ability of the body to handle glucose. It may well be that we can actually accommodate a certain amount of refined carbohydrate provided we first increase our whole-grain cereals and vegetable intake. The other really good thing about arriving at this point, in terms of nutritional management of diabetes, favourable as it is from the carbohydrate or blood-glucose point of view, is that it also starts to address the principal cause of death from diabetes, namely hardening of the arteries, atherosclerotic vascular disease reflected in heart disease, hardening of the artery supply, the legs, the brain, the kidneys, and so on, because we're able to reduce the amount of animal fat as we improve the blood-glucose problem in the one manoeuvre.

So although I would agree that we don't know all the answers

and that more research is certainly required, when you see that we end up saying, probably for different reasons, the same thing about quite disparate disorders, heart disease, diabetes, large bowel cancer, from a preventive point of view, and when you see the same patterns emerging, it gives you confidence about making general recommendations to the public although you may not be absolutely confident about heart disease, about the prevention of large bowel cancer, or of diabetes. There may be quite different mechanisms that work here as a very complex set of chemicals interacting with each other and all we can say is that we can identify a diet which is associated with an overall pattern of disease.

WILLIAMS You mentioned before the tradition amongst communities outside Australia, many of which have actually come here, especially where we are now in Melbourne. What kind of influence have they had on the Australian diet? You seemed to suggest it's a good one.

WAHLQVIST In the first place we have a lot more genuine variety in the Australian diet and, from what I have said earlier, I think you will appreciate that that is intrinsically a safer diet. There has been considerable expansion in the range of vegetables. We've seen it come particularly from southern European, Greek and Italian migrants who have increased the diversity, markedly in the vegetable area. Asian migrants have also improved the range of vegetables — of course the Chinese contributed very substantially in the early phase of Australian development but they contributed once more in the post World War II era.

Now if we think particularly about Greek migrants for a moment: they do live longer in Greece than we in Australia. It is possible therefore that the dietary pattern in Greece might have contributed to those differences and indeed from Food and Agricultural Organisation data we can see that Greeks in Greece have a higher intake of vegetables, less intake of alcohol and less overall intake of energy or calories. For all their heavy intake of olive oil, they don't end up with relatively more fat in the diet, and of course the traditional Greek diet included meat

only once or twice a week. There are also interesting regional differences within Greece. In the north they use pork a great deal more, but the pig is probably fed in the fields and the kind of fat in the carcass is more poly-unsaturated than the kind of pig available here. Even olive oil has a ratio of poly-unsaturated to saturated fatty acids about three times that in the average Australian diet. So the kinds of fats are different, and there are fewer of them overall. The interesting thing is that we, along with our colleagues at CSIRO Division of Human Nutrition, have found that, after about sixteen years in Australia, Greek men especially move progressively towards the Australian male food intake pattern, and associated with it is a movement towards the Australian pattern of large bowel cancer, more of it that is, of heart disease, and so on. Over the last year or so we have examined this problem by looking at the brothers and sisters who stayed in Greece, as opposed to those who came to Melbourne, so that we could assess the degree of divergence in food intake patterns on migration. And one of the interesting things is how much the differences relate to retention of orthodoxy. In Greek dietary patterns food intake relates closely to adherence to the Greek Orthodox religion and the days of fasting, Wednesday and Friday, which, if adhered to, do reduce the overall intake of meat throughout the year.

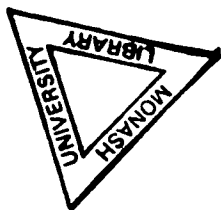
Dr Armstrong in Perth [Professor Bruce Armstrong of the University of Western Australia] has been looking at Italians and we do now have a good deal of information about the relationship between the Italian diet and heart disease. Workers in Naples, Mario Mancini and his colleagues, have recently presented work entitled 'Does the Neapolitan Diet Protect Against Coronary Disease?' and the body of evidence is that it really does. As the diet is changed from the traditional Neapolitan diet, so coronary disease rates have changed. The traditional diet was high in cereal-derived carbohydrate and low in fat. The message is plain to see, although the details may be different.

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