

Dietary supplements — why do we take them?

In this 'me-too' era of jogging, mineral water, work-outs, bean sprouts, and food faddism, we have become increasingly single-minded about attaining perfect health and vitality. The burgeoning health-food industry is the visible evidence of the proliferation of what some call 'health food junkies'.

No longer are Australians content to refuel themselves with steak and three veg. Instead, more and more people are searching out elixirs of life, ranging from green-lip-mussel extract to ginseng.

Why are people so easily converted to gulping down daily cocktails of yeast powder, kelp, cod liver oil, or ascorbic acid? Recently, controversy about the value of dietary supplements has arisen. Nutritionists claim that many are useless and some may be dangerous to users. Some pundits claim that the only result of the supplements is very expensive sewage. But the health food industry has stood its ground and continues to promote the benefits of vitamins, minerals, and 'natural' tonics.

Supplementation studies

In the United States, where most studies of eating habits have been carried out, researchers have shown that dietary supplementation is common, and has become more popular over the past 20 years. Dr Howard Schultz of the University of California and his colleagues found that, of a random sample of people in seven of the western States, 66% regularly used supplements.

In Australia, the Australian Bureau of Statistics and the National Heart Foundation have produced results suggesting that the figure is lower here (about 15–20%). However, both these studies used general terms such as 'vitamin pills' or 'tonics' in their surveys, and might not have given sample subjects enough 'cues' — for example, an itemized list of supplements — to answer correctly.

At the CSIRO Division of Human Nutrition in Adelaide, Dr Tony Worsley, Mr David Crawford, and nutritionist Dr Katherine Baghurst have been carrying out studies on the psychology of dietary supplementation practices among Australian adults. Results of surveys of Adelaide

residents are beginning to throw light on how, and why, we take vitamin pills and other supplements.

The research is part of a wider program looking at the eating habits and nutrition of Australians, and the social and psychological forces behind these practices. This information will enable nutritionists to design, implement, and evaluate guidelines for improving our health and well-being.

Before beginning the research, the investigators had to come up with an adequate definition of a dietary supplement — a basic problem, since few definitions exist

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and nutritionists differ in their usage of the term. The CSIRO group adopted the view that dietary supplements are substances — and they may or may not be considered as foods — that people take in addition to their regular diets with the aim of achieving and maintaining health. As Dr Worsley explained, most people would not regard a teaspoonful of sugar in tea as a supplement; but if taking it for a long-term health goal, the taker, at least, may consider it to be 'a supplement'.

Measuring supplementation practices is difficult because of the wide variety of

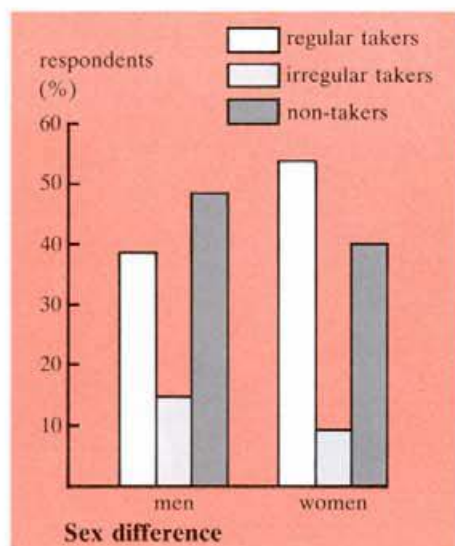


supplements used and variation in frequency and duration of use and in the dosages used.

Vitamins, sex, and status

Dr Worsley and Mr Crawford drew a random sample of 1000 names from the Adelaide Electoral Rolls and mailed survey booklets to them. The survey strategy included mailing reminder postcards, sending replacement questionnaires if needed, and sending a final reminder letter. Four surveys were conducted, and the response rates for all were high — almost 80%.

The aim of the first survey was to find out how common the use of dietary supplements was among Australians, and whether their use was related to health. The main finding was consistent with that of the American surveys — women are more likely to use supplements than men. Slightly less than 40% of the men and a little more than 50% of the women who responded take some sort of supplement regularly.



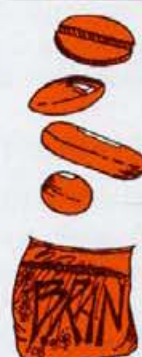
The survey found that women were more likely to use dietary supplements than men.

So far, the reasons for such a difference between men and women remain unclear. Perhaps women are more 'body-oriented' than men, and are generally more aware of their health. Because many women occupy the family role of buying and preparing food, and attending to family health problems, they tend to be more careful about diet than their mates.

The most popular supplements identified in the study were bran, multivitamins, B-complex vitamins, vitamin C, and wheat germ. Most users took supplements regularly — most on a daily basis — and over a prolonged period. And, as in the American surveys, the type of vitamin taken seemed to be related to occupational status

Perceived health benefits

health benefit	supplement	proportion of respondents nominating this benefit
cures colds	vitamin C	31
helps prevent colds	vitamin C	65
helps relieve or prevent stress/tension	vitamin 'B'	10
helps to give you vitality/energy	sugar/glucose	41
helps prevent anaemia	iron	49
good for skin/hair	vitamin A	32
good for digestion	bran	6
prevents constipation	bran	32
increases sexual potency	vitamin E	13
prevents headaches	vitamin 'B'	1
prevents bowel cancer	bran	11



— more high-income-earners used multivitamins and vitamin C than low-income-earners, who preferred vitamin E.

Why do high-social-status people prefer vitamin C and multivitamins? Dr Worsley has pointed out that such people are usually the first to take up any social innovations. Also vitamin C and multivitamins are packaged as technological rather than 'natural' products, and promoted as convenient ways of maintaining health. Their use may reflect a response to the convenience factor, and may also reflect a ready acceptance of commercial messages. The reasons why low-status groups prefer vitamin E are less clear. One old wives' tale has it that vitamin E improves virility.

Family members tend to have similar eating habits, and dietary supplementation is no exception. Supplement-users appear to encourage their wives, or husbands, and children to adopt the habit. The survey results also revealed that, of the supplements, parents prefer to give multivitamins and vitamin C to children under 18.

Bran emerged as one of the most popular supplements. Science has sung the praises of diets rich in fibre, and the group's results suggested that a large proportion of the population, especially women, have acted on nutrition research findings reported in the media.

Whatever the choice of supplement, the most popular sources were pharmacies, then health food shops and supermarkets. The monthly expenditure by users varied from less than \$5 to more than \$20. From these figures, the CSIRO researchers estimated that Australians spend at least \$140 million per year on dietary supplements, which correlates well with industry estimates.

Health and supplements

Are supplement-users any healthier than non-users? The CSIRO findings indicated

One survey looked at the benefits people expected to gain from using particular dietary supplements.

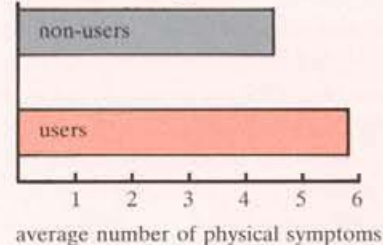
that both groups made about the same number of visits to the doctor over a given period. However, the users reported having had more bouts of minor illness in the year preceding the survey than non-users. For example, supplement-users complained more often of muscle and joint problems, digestive problems and stomach complaints, chest pains, asthma, arthritis, and mood disturbances, including anger and depression. The researchers believe that many vitamin-pill-users take these substances to try to either ward off or treat such symptoms.

The study also revealed that many supplement-users take megadoses — doses 10 or more times greater than the recommended daily allowance — of vitamins and minerals. Researchers in the United States have identified some dangers in excessive vitamin intake, including the formation of renal stones, hair loss, foetal malformation, and masking of diagnostic tests.

Food as a health hazard

In another survey, Mr Crawford, Dr Worsley, and Ms Mary Peters, also of the Division, attempted to find out whether Australians believe that eating poses health hazards. Most respondents held the belief

Health and supplements



Supplement-users reported experiencing more physical symptoms, in the 3 months preceding the survey, than non-users.

that the presence of chemicals and additives in food undermines our health, and that so-called processed foods are nutritionally inadequate.

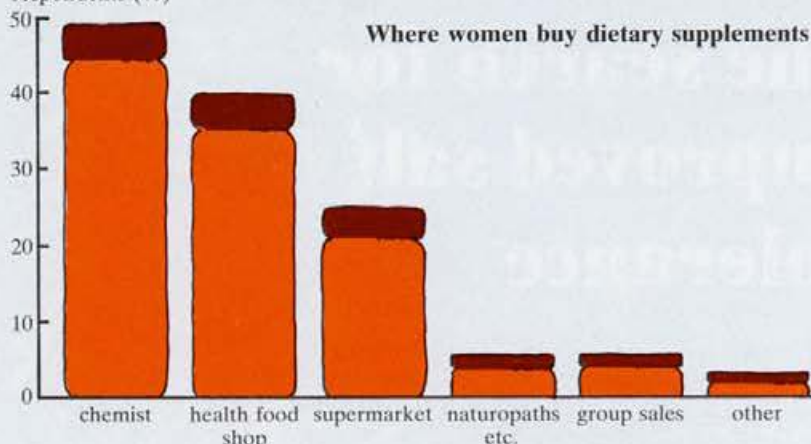
Nutritionists have found that some people who avoid processed products in favour of natural ones are undernourished compared with their more conservative counterparts. Additionally, many 'natural' products are subject to dubious quality control — for example, analysis of Chinese herbal teas has shown that many are contaminated with lead.

The CSIRO work again revealed differences in perception between groups of different sex, occupational status, and education. Women on the whole distrusted food-production processes and use of chemicals in food more than men. Responses from people in high-status jobs resembled those of respondents with a tertiary education. Both groups were more likely than others to support current food industry practices, including the freezing of food and use of pesticides.

The widespread distrust of the food industry apparent in the survey response suggests that the production, processing, and distributing sectors all need to educate the public about some commonly held misconceptions — such as the belief that freezing causes a major nutritional loss in food.

From details of their diets supplied by survey respondents, the scientists worked out these average daily nutrient intake figures. One interesting finding was that, among women, supplement-users ate less fat than non-users.

respondents (%)



The chemist was revealed as the most popular source.

People who regularly take dietary supplements tend to eat well — the CSIRO survey showed that they ate more fresh fruit, vegetables, and whole-grain bread, and drank water more often than non-supplementers. They also drank coffee less often, used less sugar in tea, and ate take-aways or fast foods and desserts less often than their more carefree peers. Paradoxically, vitamin-users appear to be those who least need supplemented diets.

In another study, Dr Worsley and Mr Crawford asked subjects to estimate the reliability of sources of health information. The response favoured that time-honoured medical oracle, the family doctor, as the source of most reliable information, and next in line was the local pharmacist. Family and the media, it seems, are not to be trusted in matters of health.

The combined results of the CSIRO surveys indicate that Australians practise two types of dietary supplementation — regular and irregular.

Regular supplementers generally have a very pessimistic view of their health, and are more suspicious of the food supply than other groups. On the other hand, they appear willing to believe the miraculous claims that the health food industry makes about the benefits of taking vitamin and mineral pills.

Irregular supplementers, particularly women, emerged from the CSIRO study with a somewhat blotted copybook. They tend to eat badly, consuming too much fat and too little fruit, and tend to trust whatever the food industry provides them with. They use vitamin pills like a 'band-aid' — for example, to fix their health during a cold — but forget about their health in the off-season.

The CSIRO findings answered a few questions but raised many more. In their future research, Dr Worsley and Mr Crawford will address such issues as why regular supplementers apparently have a better diet than others, why they distrust the food supply, why they believe many of the claims made for supplements, and whether they are more 'body-centred', more tuned in to the mass media, or simply more gullible than the non-believers. The researchers are also planning a study investigating why people make 'sensible' or nutritionally unorthodox changes to their diet.

Mary Lou Considine

Differences in nutrition

nutrient	average daily intake, not including supplements		
	regular users	irregular users	non-users
total sample			
sugar (g)	88.1	73.0	75.7
fibre (g)	17.8	15.6	15.7
thiamin (mg)	1.1	1.0	1.0
riboflavin (mg)	1.7	1.5	1.5
nicotinic acid (mg)	15.7	15.2	14.7
vitamin C (mg)	148.2	118.3	125.6
vitamin B ₆ (mg)	1.2	1.0	1.1
magnesium (mg)	180.6	162.7	168.7
calcium (mg)	634.0	597.3	572.9
potassium (mg)	2740.4	2385.3	2528.4
free folic acid (μg)	105.1	84.0	89.8
total folic acid (μg)	199.8	168.8	178.5
women only			
fat (g)	57.1	61.1	66.2
saturated fat (g)	25.1	26.2	29.5

More about the topic

Australian dietary supplementation practices: health and dietary supplements.

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