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## Very low energy diets

The prevalence of obesity has undergone a marked increase in Australia during the 1980s, in women and men, most notably in women in their late fifties as evidenced in the National Heart Foundation Risk Factor Prevalence Surveys of 1980, 1985 and 1989.<sup>1-3</sup> Whilst it is conventional to assume that this increasing problem of obesity is attributable to a greater use of fatty foods and declining levels of physical activity,<sup>4,5</sup> these factors alone do not appear to account sufficiently for the problem. In particular, the 1980s saw an intensification of food and nutrition policy developments and health promotional campaigns.<sup>6</sup> Perhaps the situation would have been worse had these not been in place. Perhaps it is that some subgroups of the population are benefiting less than others and overwhelming the general outcome. Perhaps successful campaigns to reduce cigarette smoking in the community have contributed to increased fatness.

Whatever the reasons and the unquestioned preference of prevention over treatment, helping those who have become obese is now more pressing. There is a growing awareness amongst health care professionals and nutrition scientists about this. A consensus conference in 1985 in the United States concluded:

The evidence is now overwhelming that obesity, defined as excessive storage of energy in the form of fat, has adverse effects on health and longevity. Obesity is clearly associated with hypertension, hypercholesterolemia, non-insulin-dependent diabetes mellitus, and excess of certain cancers and other medical problems.<sup>8</sup> Government health agencies in Australia have clearly noted the implications. The Better Health Commission, in its report *Looking forward to better health* has set targets to reduce the prevalence of overweight and obesity from 38% (1983) to 25% or less in people aged 25 to 64 years by the year 2000.<sup>7</sup> The recent formation of the Australasian Society for the Study of Obesity (ASSO) is an encouraging initiative which is receiving strong support.

The weight loss industry grows as the problem of obesity increases, and many are even asking whether it is contributing to the problem.<sup>9,9</sup> Good studies of the management of obesity are hard to come by, especially ones that are long term. This issue of the Journal has a study from the Weight Control Clinic at the Royal Prince Alfred Hospital, Sydney, in relation to the use of very low energy diets (VLED) (page 768). Its design is not perfect, and it suffers from problems of dropouts (well known in this field), but it is relatively long term (12 months) and provides some encouragement for further work on the use of these diets.

The state of play with this approach was considered by the Journal in 1989,<sup>10</sup> and in excellent reviews by the United Kingdom Committee on Medical Aspects of Food Policy (COMAFP) in 1987,<sup>11</sup> and by Wadden et al. from Philadelphia in 1983.<sup>12</sup> The COMAFP recommendations are that a minimum of 400 kCal (1700 kJ) for women and 500 kCal (2100 kJ) for men and tall women (taller than 173 cm) with 40 g and 50 g of suitable protein per day should apply, along with amounts of essential nutrients as recommended by national authorities. This will be a changing target as, for example, the essentiality of omega-3

fatty acids and other nutrients is defined, and as certain non-nutrients of biological value (such as the spectrum of non-vitamin A precursor carotenoids) are appreciated.

There is an emerging consensus as to those situations in which very low energy meal replacement diets might be worthwhile.<sup>13</sup> We suggest that the indications include the following.

1. Where urgent weight reduction is required:
  - (a) for life-threatening or severe complications of obesity, including intractable ischaemic heart disease or cardiac failure, the sleep apnoea syndrome, ulcerative reflux oesophagitis, and refractory non-insulin-dependent diabetes;
  - (b) prior to elective surgery including hip and knee replacements, coronary bypass/angiography, cholecystectomy, hernia repair.
2. Where nutritionally complete but low energy feeding is required for obese subjects:
  - (a) who are ill;
  - (b) who have had gastric partition surgery;
  - (c) who are elderly.
3. Where weight reduction will benefit obese subjects who are unable to increase their physical activities, because of:
  - (a) severe osteoarthritis;
  - (b) neurological disease including stroke and Parkinson's disease;
  - (c) chronic cardiorespiratory disease.
4. Where dietary restriction of food intake and increased exercise appear to have failed.
5. Where motivation and/or early demonstrable weight loss is required.

In all cases use should be under medical supervision. However, the matter of medical supervision has been fiercely debated. The rationale for medical supervision is as follows.

1. A medical diagnosis is required in situations where VLEDs are used.
2. VLED use requires medical monitoring for:
  - (a) completeness of essential nutrient intake;
  - (b) adjustment of medications including those for hypertension, diabetes, and cardiac disease;
  - (c) the supervision of transfer or phasing out to maintenance regimes in accordance with medical needs and long-term therapeutic goals;
  - (d) use of adjunctive management strategies in obesity, including behavioural change, appropriate drug therapy and, where necessary, surgical strategies.
3. Professional distinction needs to be made between nutritionally complete (as this is understood) and incomplete formula feeds where total or even partial food replacement is used.
4. There should be a formalised opportunity for users to take advantage of professional advice on risks and benefits and the nature of biological effects of VLED products.
5. Inappropriate use of VLEDs (for example, in lean young females) should be discouraged.

Even more difficult has been the matter of appropriate food and drug legislation to regulate the use of products manufactured for the purpose of dieting at very low energy intake levels in a nutritionally safe fashion. Should these products be "food" or "therapeutic goods"? In Australia we have separate agencies dealing with these goods. In the ordinary course of events, products which would be used under medical supervision would

require their regulation as therapeutic goods. So far, however, decisions as to their use have been a matter for food regulatory agencies, State or Federal, in Australia. A most useful working party has been set up by the Federal Bureau of Consumer Affairs (FBCA) to consider these matters, with members drawn from food and drug regulatory bodies.

Major shifts in the food supply are taking place, in the direction of items which attend to dietary guidelines and, therefore, health needs. Thus, the development of more and more nutritional products for ingestion which have therapeutic possibilities (the Japanese are referring to these as "functional foods"), and the creation by smart food technology of more and more analogues of basic food commodities and traditional food products, will expand the grey area between food and medicine. In the Orient, this is not seen as a problem because food has often been medicine, and medicine food. But in Occidental countries, like Australia, our frames of reference are that food is food and medicine is medicine. It seems that we will increasingly need to formalise our legal approaches to the intermediate range of products as "medical food". Very low energy diets fall into this category.

A rather practical approach, which is gaining some acceptance, is that a substance which is a food may, in the public interest, yet be restricted to medical prescription by inclusion in Schedule Four (Restricted Substances) in State poisons legislation and, again, that substances or products listed in Schedule Four need not be only those which have therapeutic or medicinal purposes.

Above all, the increasing problem of obesity in our community must be addressed by both preventive and therapeutic strategies that are scientifically founded. Our research base in these areas is woefully inadequate. More effort needs to be made by the health care professions to ensure that appropriate long-

term studies are completed. In turn, life will be easier for regulatory bodies as they seek to serve the public interest.

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## ORIGINAL ARTICLES

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### Alcohol abuse among young offenders

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**Objective:** To investigate alcohol use and abuse among young offenders.

**Design:** A questionnaire survey.

**Setting:** Two centres in Adelaide used for the custodial care of young offenders.

**Participants:** All consecutive admissions involving stays of more than 24 hours. All subjects were adjudicated delinquents. Usable questionnaires were obtained from 197 of the 207 subjects (95.2%) approached.

**Main outcome measure:** The Adolescent Alcohol Involvement Scale (AAIS).

**Results:** Most respondents (72.1%) obtained AAIS scores that fell into the problem drinking range, with 24.4% scoring in the "alcoholic-like" drinker category. Comparison with a South Australian student sample indicated much higher rates of alcohol consumption among the young offenders. The majority (56.9%) had been

drinking at the time of their last offence.

**Conclusions:** Offending and the use of alcohol by adolescents are closely linked. Young offenders are at an extremely high risk of alcohol abuse. It is recommended that greater treatment and prevention efforts be directed toward this group.

(*Med J Aust* 1992; 156: 753-755)

**I**ncreasing concern is being expressed about the health, social and economic costs of adolescent alcohol abuse.<sup>1</sup> However, little research has been done in Australia about specific adolescent groups which might be at increased risk of such abuse. One neglected

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