DIETARY STRATEGIES: VLCD VS. CONVENTIONAL DIETS

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Proceedings of the 6th European Congress on Obesity (1995): Int J Obes (suppl.) 19, 4-5.

When we try to compare the pros and cons of treatments applied to human individuals, the situation is less controllable than in animal experiments, and the effects we observe are much more difficult to interpretate. This is true when we prescribe drugs, and even more so when we try to evaluate a dietary program aiming to modify over time the every-day fundamental behavior of free-living human beings. No matter what energy restriction we prescribe, it is common experience that factual weight losses are smaller than predicted by physiological calculation. Apart from physiological variability, compliance is of course the key word in this context: many things happen - or do not happen - that the investigator can only surmise, but never know for certain.

In reality, we can only ask and answer simple, basic questions like: what has happened, after a certain time, to the BMI of persons whom we have exposed to a given information and advice?

In this presentation, conventional diets (CDs) are defined as nutritionally adequate programs with an energy level so low - usually between 3.3 and 6.3 mJ (800 - 1,500 kcal) - that any obese adult will lose weight if the diet is followed with a reasonable degree of compliance.

Most CDs are above 1,200 kcal (5.0 mJ). As the name implies, CDs reflect the convention and currently prevailing conviction of the authorities. Thus, CD recommendations vary somewhat from time to time and between countries. Still, all serious CDs have the following traits in common, apart from being moderately hypocaloric: reduction of the intake of fat, sweets and refined sugar, abstinence from alcohol, much bulk, and an amount of high quality protein above a certain minimum.

The main advantages of CDs are that their components are familiar and illustrative in themselves, and that some of them can be consumed in considerable quantity.

The main draw-backs of CDs can be summarized thus: weight loss is relatively slow. This is a disappointment to many patients, and they often give up too soon, feeling that the reward is not worth their efforts. This means that in CDs we should give information about realistic weight losses to the would-be dieters before they embark upon treatment.

Another draw-back of a similar nature is that it is time-consuming to instruct somebody, even superficially, in a nutritionally adequate program covering the meals of the day: it is necessary to offer the dieter concrete, exemplified advice on avoiding or preferring a reasonable number of the existing, innumerable choices of food and drink. If a pre-treatment instruction is not provided, many dieters will practice selfinvented restrictions. Such improvisations are sometimes merely monotonous, but often they are nutritionally deficient, especially with regard to protein. Advice is essential in all programs, but in VLCDs it can safely be allowed to take the time needed to give it thoroughly, after treatment has been started. The slow weight loss make CDs unsuitable in urgent situations, see below.

It is a major draw-back that the qualitative restrictions imposed by CDs are often difficult to accept, as they go against the cherished preferences of many people; see below. Another disadvantage, similar to the one mentioned before, is that dieters often try to remedy their breaches of CD by private experimentation, like intermittent starvation or by eating less, or nothing, of the diet´s indispensable components.

By VLCD we understand nutritionally adequate formula preparations of 1.4 - 2.1 MJ (330 - 500 kcal), taken for a limited, if need be repeated, period of time - usually from one week to one month - either as sole source of nutrition or with only a small (ab. 0.4 mJ, 100 kcal) supplement of vegetables or salad).

After years of dispute and reassuring experience, I think we can conclude that modern VLCDs are without risks with regard to cardiac function and body composition. Some patients with gall stones, gout or porphyria are unsuitable for VLCD. The same goes for patients depending on insulin, unless ideal cooperation and control is secured. We have seen no clinical symptoms related to perihilary hepatic fibrosis. Mild initial complaints sometimes occur: vomiting, constipation, diarrhea, intolerance to cold. They are transitory if the patient drinks enough, and especially if she can be brought to realize that the formula diet is not a potent medicine, but merely concentrated food no more artificial than cheese and spaghetti. The possible contribution of VLCDs, and of other effective diets, to the much debated long term disadvantages of weight fluctuations cannot be assessed at present.

An important draw-back of VLCD is the absence of nutrition education, i.e. that its appearance has no pedagogical significance. This must be remedied by nutrition counseling. Fortunately, advice is usually well received during the

encouraging weight loss. Another draw-back is the fact that authorities in most countries demand some medical supervision, and impose various restrictions on the use of VLCD.

In my view, these disadvantages are outweighed, first and foremost by the magnitude and speed of the weight loss. This consideration is often decisive, and should be acted upon, in the very obese, especially in the young and unhappy. The same goes for the many overweight persons who need a quick and substantial weight loss because of cardiac or pulmonary insufficiency, critical hypertension, sleep apnea etc., who have hernias or painful and disabling orthopedic complications, whether or not they are candidates for surgery.

Compared with CDs, VLCDs have the practical advantage that the program can be started immediately, also in persons with no knowledge of nutrition. In addition to the encouraging weight loss, it is an advantage is that after a few days on VLCD, hunger problems are often surprisingly small. This is reminiscent of the absence of hunger seen in total starvation. It is of course important that the whole daily VLCD ration is taken, in spite of the anorexia.

We found (1) that the longer the dieter sticks to the initial VLCD, the greater will be the ultimate weight loss (p=0.001).

The most promising future application of a nutritionally complete formula diet is:

VLCD as the mandatory basis of a hypocaloric program (4.1 - 4.6 mJ/ 1,000 - 1,100 kcal), an approach which allows the dieter complete freedom of choice within an energy budget of ab. 2.5 mJ (600 kcal). The program we use begins as VLCD for as long time as possible. Supplementation, and eventually replacement, with ordinary food and drink is gradual, and based on a visualized pedagogical system of isocaloric units (2).

This freedom within limits includes fatty items, sweets, and alcoholic beverages. Renunciation of popular food and drink is a major reason why many overweight persons make no serious attempt to diet or, if they do, break the diet or withdraw from treatment. In a randomized trial (3), the above-mentioned untraditional program resulted in comparable weight losses, but a significantly smaller drop-out rate than an isocaloric CD, even though the latter was supported by amfepramon (p<0.05). Since 1988, we have routinely used a formula preparation (Nupo®) as an initial 'safety net' in more than eight hundred overweight patients. Our observations and results are described elsewhere in this book (4,5).

In this pragmatic way, the benefits of weight loss can be obtained in the many overweight persons whose motivation and compliance tend to be poor, e.g. in elderly patients with ingrained habits, in persons with an irresistible 'sweet tooth', and in the many males with upper body obesity, who are disinclined totally to abstain from eating and drinking what they like most.

The 'freedom within limits' approach can of course be criticized for not being conducive to a better life style. Still, all things considered, it seems better to be a normal weight person with questionable eating habits than to remain obese with the same habits.

Also, by handling the limited budget, the dieter may learn to identify - and eventually prefer - the satiating and valuable items of food and drink: This means that the occasional freedom of choice can be combined with understanding and learning the habit of a carbohydrate-rich, low fat diet.

The chances of success are improved by group settings, visual (slides, video), oral and written nutrition education, behavior modification, self-monitoring, eating diaries, advice on physical activity and exercise, and by the individualized use of pharmacology.

As we all know, the long term relapse rate is disappointingly high after dietary treatment of obesity. In this respect there is no difference between the programs described in this paper.

Long-term results are so unsatisfactory that one might consider to abandon dietary treatment and use our resources on public information and on looking for faulty genes and for ways of correcting the harm they do. Bariatric surgery may be a way out for selected cases. Meanwhile, the public's demand for help is increasing, and clinical doctors should not leave the field of dietary treatment to others. It yields some acceptable long-time results and a few permanent successes. With regard to the less successful majority, weight loss remains the treatment of first choice in those who have complications. We should not underestimate the many beneficial effects of a temporary weight loss. After all, obesity is not the only chronic disorder for which we have no permanent cure.

References:

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