

Report of the American Diabetes Association's Task Force on Nutrition

Introduction

We can chart our future only if we know what has led us to the present.

Adlai Stevenson

Writing in the sixteenth century B.C., the Egyptians described diabetes as the dissolving of flesh in urine and promoted its treatment with diets high in carbohydrate as a means of combating the loss of fuels. Early in the first century, Aretaeus of Cappadocia endorsed these suggestions, recommending a diet of milk, cereals, and starch. By the early twentieth century, the whimsical rice, potato, and oatmeal diets had evolved from these beginnings and reached the apex of their popularity. The noted physician Willis—possibly more famous for the description of a circle of blood vessels at the base of the brain—endorsed such diets on the basis of the appearance of sweetness of the urine. Thus, many a medical student was obliged to taste urine before the advent of more advanced technology. Now a more sophisticated method is employed in which a treated strip of paper inserted in the urine is transposed, to a degree proportional to the quantity of glucose present, into one of the colors of the rainbow—a facility not generally endowed to the human taste bud.

In contrast, Rollo suggested as early as 1797 that carbohydrate was the root of the evil that is diabetes and promulgated diets that were low in carbohydrate and rich in fat. This was the theoretical basis of the ketogenic diet that received some measure of recognition in the treatment of obesity and was the cause of considerable misery and discomfort to the unfortunate people subjected to this misguided effort. Another practice was the severe caloric restriction applied by Allen at his Morristown, New Jersey, clinic in the years just before young Leonard Thomson was the first to receive insulin at the

Banting Institute of Toronto. In a book on the discovery of insulin, historian Michael Bliss tells the poignant story of a teenager, named Annie Hughes, who was kept alive by starvation treatment while awaiting the arrival of the miracle cure insulin, with which she was successfully treated until she was in her 80s.

A quarter of a century later, these recommendations were examined seriously by Himsworth, who advocated diets high in carbohydrate that “enhanced the sensitivity to insulin.” The notion gained much support and sparked off more than five decades of investigations into the nature of carbohydrate and the role of dietary fiber in the management of diabetes. Between 1940 and 1970, the American Diabetes Association (ADA) conservatively suggested that carbohydrate intake should be low and that fat intake should be moderate, a view that was changed in 1971 to high and low, respectively. In 1979, the ADA Committee on Food and Nutrition published a report titled “Principles of Nutrition and Dietary Recommendations for Individuals With Diabetes Mellitus.” Its recommendations essentially liberalized the carbohydrate intake and reduced the fat intake.

NUTRITION FACTS, FANTASY, AND FICTION

Much new information pertinent to the role of nutritional management of diabetes mellitus emerged between 1979 and 1985. Information on the different types of carbohydrate, food exchanges, and the glycemic value of different carbohydrates abounded. The nature of different forms of fiber had been elucidated; fats had been divided into the good, the bad, and the ugly; and even proteins, with their possible harmful effects on renal function, had not escaped attention. New under-

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standing of the Eskimo problem (e.g., their freedom from myocardial infarctions despite considerable fat ingestion) led to a flourish—possibly without factual data—in the fish oil industry. Furthermore, the large intake of artificial sweeteners by weight-conscious people generated new anxieties over the safety of these compounds.

Many questions concomitant with the newly gleaned knowledge began to arise. The complication of diabetes when combined with hypertension initiated questions on the safe limits of salt intake. Information also revealed the diversity of effects diabetes has on other aspects of health. It became increasingly plain that the condition was heterogenous and that there would be no universal balm for the multifarious nutritional needs and guidance required by different minority groups. Other differences in a patient's chemistry and life-style were becoming apparent. Principles that were applicable to the adult were clearly not appropriate for the child. Moreover, the country had become so body conscious that it was dictating the need for physical fitness to the rest of the world, and attention had to be given to guidelines for exercise in the management of diabetes. The 1980s also witnessed a transformation in the approach to nutrition education with the growing need for teams of individuals and the increase of patient participation in the decision-making process.

Faced with the dynamic events in the 6 years since the 1979 update on principles of nutritional management of diabetes, it was with some trepidation that the Task Force on Nutrition accepted ADA's challenge to revise the guidelines. In 1979, the guidelines had been published without recourse to the presentation of the data from which the conclusions were derived. As chairman of this committee, I felt it imperative that, in addition to addressing the many new issues that had arisen, the debate of the group should be plain for the discriminating audience to view. With this in mind, each of the areas to be addressed by the task force was assigned for review to more than one member with a

commitment to nutrition investigation and a special knowledge and interest in the area. Over a period of more than 1 year and after several 1½-day meetings, presentations were made by the primary reviewers to the group, allowing constructive criticism and suggestions as to the appropriateness of possible revisions. For further examination, the recommendations and the logic behind them were presented to a group of distinguished scientists without a vested interest in the area. The primary authors were then required to write treatises on their particular areas of expertise, and these were circulated to the other members of the task force and also, where appropriate, to people with expertise in the area who had not participated in the initial endeavors. The report on the Nutritional Recommendations and Principles for Individuals With Diabetes Mellitus was approved in October 1986 by the Board of Directors of ADA and has since appeared in the journal *Diabetes Care*.

In this issue of the journal, the reader will find articles that represent the debate of the task force and testimony to their yeoman efforts to provide a rational basis for their recommendations. Nonetheless, nutrition guidelines are meant to guide and are not meant to be a dogmatic application of the notions of a few individuals. Clearly, there are views that differ from those espoused by the task force. As new information emerges, these guidelines will need updating and revisions.

Often correct knowledge can only be arrived at after many repetitions of the process, leading from matter to consciousness and then back to matter, that is, leading from practice to knowledge and then back to practice.

Mao Tse-Tung

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