

Book Reviews

Diet and Health: Implications for Reducing Chronic Disease Risk. Committee on Diet and Health, National Research Council, xiv + 768 pp. Washington, D.C.: National Academy Press. 1989, \$49.95 (cloth).

This massive hard-covered volume with large (8 by 11 inch) double-column pages collides in time of printing and overlaps in content with the 1988 Surgeon General's *Report on Nutrition and Health*. Since there are only so many references to cite, and since the consensus of opinion does not differ greatly from one group of expert nutritionists to the next, there is valid argument as to which of the two is more useful both as an introduction to nutritional epidemiology and as a goldmine of references (especially the references we forgot to remember). Alternatively, when it comes to dollars, is the National Academy of Sciences' 4½ pound volume worth nearly twice as much as the Surgeon General's entry of equal thickness but smaller page size and ⅓ less weight?

Since the directed aim is nutritional epidemiology rather more space is obviously given, in the earlier chapters of this book, to the design of studies, to dietary survey methodology, and to the analysis of data (chapters 2-5), and rather little to nutritional anthropometry (a tiny part of chapter 6). In fact, such methodological concerns as skinfolds and hydrostatic weighing are dismissed in a very few paragraphs. Only when we come to the later chapters on diabetes or obesity or hypertension or coronary artery diseases, do we discover that nutritional anthropometry is there again and again, as overweight or relative weight or percent fat, or standards or such.

There is a very useful chapter on genetics (chapter 4), clearly the loving product of Dr. Arno Motulsky, who headed the task-force committee responsible for this work. There the reader will find, conveniently assembled, the references to the "inheritance" of alcoholism in studies that follow the diabetes model. However, and this is surprising in a book centered on diet and disease, there is scant attention to confounding parent-child, sibling, and spouse similarities in nutrient intakes, to food-consumption patterns, or to the host of environmental factors that people who live together also share in common. (My colleagues in epidemiology have shown how

much passive smokers resemble their smoking spouses in cardiovascular and respiratory-disease morbidity and mortality.)

Beyond the first 5 methodological chapters, there are 20 substantive chapters, first relating to "dietary components" and then to diet and chronic disease, as follows: 6 Calories: Total macronutrient intake, energy expenditure, and net energy stores, 7 Fats and other lipids, 8 Protein, 9 Carbohydrates, 10 Dietary fiber, 11 Fat-soluble vitamins, 12 Water-soluble vitamins, 13 Minerals, 14 Trace elements, 15 Electrolytes, 16 Alcohol, 17 Coffee, tea, and other nonnutritive dietary components, 18 Dietary supplements, 19 Atherosclerotic cardiovascular diseases, 20 Hypertension, 21 Obesity and eating disorders, 22 Cancer, 23 Osteoporosis, 24 Diabetes mellitus, 25 Hepatobiliary disease, and 26 Dental caries. Then follow the conclusions (chapter 27), recommendations (chapter 28), and a 36-page triple-column index.

This book is a splendid source of references, section by section, as many as 1,120 in a single chapter, and of conventional consensus wisdom, disease by disease. More to the point, references in this book are usefully up to date, and this is also one of the detriments. One would not discover, by reading chapter 23, how much of our present knowledge of adult bone loss derives directly from Mildred Trotter's skeletal studies, three decades ago. In updating, we are therefore referred to a late (1977) paper by Cohen et al. as the sole source of information on black-white differences in adult bone loss. Also, the "epidemiological evidence" in favor of the low-calcium hypothesis for adult bone loss (Matkovic, 1979) is really only one study on two contrasting populations in Yugoslavia. Single-study findings are legitimate, of course, at times the desired proofs of a particular hypothesis, but they may be given undue prominence simply because they confirm desired expectations or because they were favored by the NAS professional staff.

At times, Committee members have advanced their own (still in press) research findings, giving them an undue and undigested prominence. So we find a section, attributed to George (in press), suggesting that the obese actually eat less and the lean do eat more. This is a common ostensible finding in survey data, including those of NHANES I and NHANES II, quite ignoring the tendency of the obese to underreport and the lean to overreport their actual caloric

intakes. Yet the obese in such studies still have higher serum and urinary vitamins and higher hemoglobins and lipids, despite their reported intakes. And, if we take the self-reported data at face value, are we to urge the obese to eat more and the lean to eat less?

In effect, this is a gigantic committee-produced textbook on nutritional epidemiology, far beyond the scope and expertise of any one author, and showing the advantages of a support organization for such a monumental work. How much was actually written by Committee members and how much was produced by the contract organization is difficult to say, though the Surgeon General's Report (sic) was written on contract, then submitted to a list of "experts" for their comments.

This book will save most of us many hours of searching through the *American Journal of Epidemiology*, *American Journal of Clinical Nutrition*, and *American Journal of Public Health*. It will save most of us the need to initiate a MEDLAR search. I would not willingly part with this book, now that I have it, even though I disagree with some of its "consensus" conclusions.

Which is the better book for the money, this massive 768 page volume or the 747 page Surgeon General's Report with smaller pages? My colleague Mary Fran Sowers, who is a nutritional epidemiologist, advises her students as follows: "If you have \$49, buy the National Academy volume. If your budget is not that, purchase the Surgeon General's Report instead." These are my sentiments, too, with both volumes in hand to compare.

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Exercise, Fitness, and Health: A Consensus of Current Knowledge. Edited by Claude Bouchard, Roy J. Shephard, Thomas Stephens, John R. Sutton, and Barry D. McPherson. xx + 720 pp. Champaign, IL: Human Kinetics Books. 1990, \$55.00 (cloth).

In 1985, the executive committee of the Canadian Association of Sport Sciences proposed that a conference be organized in cooperation with organizations in the public and private sectors that were concerned with healthy lifestyles for Canadians. The objec-

tives of the conference were to review the current status of knowledge concerning the relationships among exercise, fitness, and health, and to develop consensus statements defining the resulting understanding of these relationships. The International Conference on Exercise, Fitness, and Health, held in 1988, was the result of this extensive planning effort. *Exercise, Fitness, and Health: A Consensus of Current Knowledge* is the result of this conference.

In sitting down to write this review, I had to keep asking myself, "How does one review a book that is 720 pages in length, comprised of 62 chapters, with a list of 90 contributors who constitute the top scientists and clinicians in the world in the exercise sciences?" To further complicate the issue, the subject matter spanned the physiological, pathophysiological, behavioral, anthropological, genetic, and economic aspects of the topics addressed, going from the molecular to the organismic level. In fairness to the editors and the contributors, this review will, by necessity, be very general in scope, using specific chapters only to illustrate major points.

First, the organizers of this conference are to be congratulated for their organization of an outstanding program with an excellent selection of primary speakers and discussants. The concept of drafting a consensus statement based on the current knowledge base in the topic areas addressed during the conference is original and provides an important linkage of these topic areas into an integrated "state of the art" statement. The consensus statement also provides a platform from which new research can be launched. Second, the editors of this book deserve particular praise, in that they have smoothly integrated the contents of this International Conference into a comprehensive document that was published in a period of less than two years from the time of the conference.

The book is organized into six sections. For most topic areas, the primary speaker has written the main overview chapter, followed by a chapter written by one or more discussants, the latter chapter providing a forum for reactions to the primary chapter, or for the inclusion of supplemental material. Part I contains the Consensus Statement and the three introductory addresses on "Issues in 1966 Versus Issues in 1988 (Åstrand)," "Physical Activity and Physical