

Book reviews

Teach Yourself Weight Control Through Diet and Exercise. G. Webb. London: Hodder & Stoughton. 1998. £6.99 ISBN 0 340 71219 8

This book is part of the 'Teach Yourself' series and, as the author states, is aimed at improving knowledge and understanding of body weight control and the reasons for excess weight gain together with providing practical measures to help in weight control.

The first part of the book concentrates on defining the terms obesity and overweight, and summarizing the impact of weight gain on health and well-being. The prevalence of obesity in different countries is compared and the effects of age, social class and ethnicity on obesity are reported.

The book then goes on to explore the concept of energy balance in the context of appetite and satiety, and the physiological mechanisms of appetite are fully explained. The effect of both food intake and physical activity on body weight is fully discussed, and the genetic and environmental factors which may have contributed to the recent rise in obesity are reviewed.

Chapter 5 provides a useful review of diet books and programmes, and gives a useful checklist to evaluate different regimens. It is not until Chapter 6 that the practical issues of achieving and sustaining weight loss are addressed. The diet proposed follows the principles of healthy eating: reduced sugar, reduced fat with a high intake of starchy carbohydrate and fruit and vegetables. There is greater emphasis on the quality of the diet than on reducing the quantity eaten. This approach is well balanced and stresses increased physical activity as well as altering food intake. The suggestion that fat intake should be reduced to 20–25% of energy intake is rather ambitious: most authorities would recommend a reduction to 30–35%.

This book is well written and well presented but does resemble a textbook for students rather than a manual for the general public. The author employs many technical terms, and the chapters about energy balance and appetite control are biased towards those with a good understanding of physiology. It is questionable how much of this the lay public would grasp. The majority of the book is taken up by these theoretical explanations and the practical aspects are largely overlooked. In clinical practice, many people know what they have to do to lose weight but find it difficult to make the necessary changes. This book does not address this problem, and although it devotes a couple of pages to behaviour therapy, the barriers to change are not fully explored.

In conclusion, this book would prove useful to those who work in the diet and fitness industries, and would provide an excellent overview for student dietitians and physiologists interested in food intake and physical activity, but it is too technical to be of much practical use to the general public.

P. Dyson

Vitamin A and the Immune Function: A Symposium. Edited by C. Kjolhede and W. R. Beisel. 1996. New York: Haworth Press. \$29.95 ISBN 1 56024 757 6

In the closing remarks to his chapter, Jim Olson likened the proceedings of the symposium 'to the perceptions of seven blind men on the form of an elephant!'. This struck me as rather an apt remark to describe the contents, since this book contains reports from seven authors each giving different views on the current status of an immense subject, namely vitamin A and immune function. What characterizes all the accounts is the clear realization that much ignorance still exists concerning the role of vitamin A in immune mechanisms. However, the book is a serious attempt to address some of the important questions on how vitamin A treatment has reduced mortality and morbidity in most of the large intervention studies in Third World countries, and why vitamin A has highly beneficial effects on measles morbidity but, strangely, much less effect on non-measles morbidity.

The proceedings for this book arose out of a symposium held in 1993 at Johns Hopkins University, Baltimore, MA, USA. The structure of the book is straightforward. There is a brief introduction by the first editor before William Beisel provides a historical overview of 80 years research on vitamin A and disease. Jim Olson and Frank Chytil each outline current views on vitamin A metabolism during infection, and molecular mechanisms of vitamin A in relation to immunity. Catherine Ross provides the main immunological contribution to the book and provides a fascinating insight into differing host responses to bacterial antigens, e.g. protein, polysaccharide and lipopolysaccharide, in vitamin A-deficient animals. Her careful work is helping to dissect out where and how vitamin A influences the immunological response, the nature of vitamin A interaction with lymphocytes, and the level within cells at which interaction takes place. In the last three chapters, vitamin A status is discussed in relation to its influence on T-lymphocyte responsiveness (Tim Kramer), influence on immunizations (Richard Semba), and finally with reference to immune function during measles (Anna Coutsooudis).

Readers might be interested to note that each of the chapters is also published as a paper in the *Journal of Nutritional Immunology*. While this will make the individual contributions of the authors more widely available to the scientific readership, I would hasten to add that there is one big advantage to the book. At the symposium each presentation was followed by a lengthy discussion, and the summary which follows each chapter is sometimes longer but just as interesting as the chapters. The discussions highlight the dissension as well as the agreement between contributors. Of particular interest were views on the benefits as well as the potential harm of incorporating vitamin A supplements into the Extended Immunization Programme.

William Beisel's chapter outlines some of the salient

landmarks in the long association between vitamin A and the natural resistance to disease. A protective role for vitamin A against infection has been known since the 1930s but the true importance of this for health was ignored until the large intervention trials which began in the 1970s. Likewise, the benefits of vitamin A in the treatment of measles are now widely accepted but it is interesting to note that the first placebo-controlled study which tested the therapeutic benefits of cod-liver oil in the treatment of measles (Ellison, 1932) went unnoticed for more than 50 years before it was confirmed by Barklay *et al.* (1987). Now, the benefits of vitamin A are so enthusiastically received that the American Academy of Pediatrics recommends that American children with measles are also treated with vitamin A, as has been recommended by WHO for children in the developing world.

It is not the intention of this reviewer to discuss the content of each chapter. The book should be read by those workers who are anxious for a better understanding of the protective role of vitamin A against disease. The editors have to be congratulated not just on including seven very useful papers but also on collecting together the views of other experienced workers in this field, who contributed to the discussions. Questions are asked and opinions are given, but very often the answers include 'we don't know the real reason'. We do not know why plasma retinol falls in disease. Is it a protective response, and if so in what way does it protect? The beneficial response achieved by treatment of measles with vitamin A supplements would appear to indicate that little harm is done by supplements, but it has to be remembered that some children still die of measles even though they received the supplement. We still need to get a better understanding of vitamin A metabolism to be sure that no harm is being done.

One point which should have stimulated discussion but didn't was the view of Richard Semba that a concentration of plasma retinol of $\leq 1.05 \mu\text{mol/l}$ is a 'traditional cut-off to define vitamin A deficiency'. If this were true, then more than half the children in the British Pre-School Survey (Gregory *et al.* 1995) would be vitamin A deficient. However, even Dr Semba could find no difference in the IgG

responsiveness to tetanus toxoid of Indonesian children with plasma retinol above and below this level, so it is not really clear why the author analysed his data in this way.

Finally, I would recommend this book to both nutritionists and immunologists as it provides a good starting point for anyone interested in the subject of nutritional immunology. It will be particularly useful to students, for in spite of the long association between malnutrition and disease, there are few texts which deal with the interaction at anything more than a superficial level. The chapters dealing with molecular mechanisms of vitamin A at the genetic level and the influence of status on the specific effects of bacterial antigens on immune function are highly relevant to current research techniques and scientific thinking in the field of vitamin A research. Gerald Keusch commented in his summation that the nutritionists at the meeting do not know very much immunology and that immunologists have very little concept of clinical nutrition. His comments on the pathogenesis of disease are also pertinent. 'Infectious disease' should not be used as a generic term for all infections. The patho-physiology peculiar to an organism is highly specific and the fact that vitamin A may be effective in one situation does not mean that it will be effective in another. However, there are similarities in the metabolic response of vitamin A to different diseases and it should be a challenge to all of us to understand better the nature of this response. In conclusion, the 'seven blind men' have made a timely contribution to the literature.

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References

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