

Book reviews

Introduction to Nutrition and Health Research. Eunsook T. Koh and Willis L. Owen. Boston, MA, USA: Kluwer Academic Publishers. 2000. Hardback \$127.00, £89.00. ISBN 0-7923-7983-7

Think of the ten questions most asked by undergraduate students of nutrition. Think of the five questions most asked by postgraduates. Think of the new research assistant...

The answers lie here in the simplest of fashions in this text on research methods. Slowly and gently, the answers and guidance to all those irritating queries are laid out in a logical, calm and well-communicated form. In part one the book provides a step-by-step guide on research theory (rationalistic *v.* empirical), defining the research problem, literature reviews, critical evaluation, hypothesis, methods and ethics. Even at this stage the text is peppered with examples from published nutrition work, possible research questions, examples of interesting titles and references to papers that you feel you should have read. The examples range from food and diet issues to biochemistry, all useful and with surprisingly interesting subjects and studies. The overall message is that even the greatest nutritionists follow classic approaches, they all started somewhere and here is the opportunity for the student. If the student wasn't curious about nutrition before opening the book, they should be by the time they reach part two.

Basic statistics and measurements often panic the calmest and most capable students. Part two (Statistical and measurement concepts in research) is a good basic introduction to the main statistical tests, their meaning and limitations. Examples are well presented with worked formulas and applicable in many disciplines. More specialised dietary methodology is addressed including group and individual data, validity in dietary assessment methods, use of biochemical markers, anthropometric assessment and clinical assessment.

Part three tackles writing the research proposal and results. This is a very useful guide to writing a dissertation and an introduction to writing research proposals. Given the extraordinary number of problems students seem to have with writing, this chapter outlines a great selection of figures and ways of presenting data. Tackling the discussion is also broken into manageable chunks and finally there is guidance on the abstract (useful for all new Nutrition Society members struggling with where to begin). The final chapter in this section is almost like a graduation chapter (now you've done your thesis what about applying for grants). The content is based around a National Institute of Health submission which is probably as good a testing ground as any, especially the salutary section on why grant proposals fail.

The final section is on using computers in research (data entry software, graphical software, statistical software, data

analysis), which I think is best taught as a 'hands on' rather than text approach, but still a brave attempt and back up for the student nervous of computers (can there still be any out there?).

All in all a well laid out text with a summary at the end of each chapter, good referencing, excellent examples and pure encouragement for the novice. There are limitations, including the North American approach, which is evident in the papers cited, journals quoted and web sites mentioned. Overall, a real lack of literature databases, no BIDS and PubMed, certainly one area which needs expanding. The sections covering qualitative methodology are very scanty and can almost be missed. I guess this finding reflects the general trend by nutritionists to ignore social science methods, a great failing for those interested in the processes of dietary intervention. Ultimately this is an introductory text and provides a great flavour for the systematic approach one must take in research routes. The career scientist however, would be quickly searching out more references to expand his/her knowledge and understanding. A great book for recommending to students when the questions about dissertations start and confidence fails. Also, I suspect, a good book to throw at the student who 'doesn't know where to start'. In fact, this text could save the tutor a good hour of supervisory time and that's when the decisions about the cost need to be made.

Annie S. Anderson

DOI: 10.1079/BJN2001374

Calcium Hunger. Jay Schulkin. Cambridge: Cambridge University Press. 2001. pp. 206. UK Paperback £17.95. ISBN 0-521-79551-6. Hardback £50.00. ISBN 0-521-79170-7.

Ca has been described as 'the most important inorganic element in the body'. It is certainly the most abundant mineral, accounting for 22.4 g/kg fat-free body tissue. That is to say that the body of an average 70 kg man with 15 % of his body weight as fat, would contain 1.33 kg Ca. Of this, 99 % would be present in the skeleton, with the remaining 1 % distributed between the extra- and intracellular fluids. The concentration in the plasma is one of the most closely controlled plasma variables, while intracellular Ca regulates a number of essential functions, exocrine- and endocrine-gland secretion of hormones, cyclic nucleotide metabolism, chromosome movement and initiation of DNA synthesis.

The author's aim was to provide a context in which behaviour, hormonal and physiological mechanisms for regulation of Ca can be understood. The reader is introduced to an understanding of how the brain orchestrates

whole-body demands for Ca, and links are made between the basic and clinical literature dealing with Ca metabolism. After a brief 'introduction', the material is presented in five chapters ending with a 'conclusion'. An 'appendix' lists food sources with servings' sizes and absolute amounts of Ca per serving. The book contains fifty-five pages of references.

The 'introduction' presents an overview of the mineral, including its functions, distribution in the body, range of recommended dietary ingestions and food sources. The idea of an 'appetite' for Ca is introduced together with possible programming of the body to ingest Ca when the need for more arises.

The first chapter discusses 'Behaviour regulation of the internal milieu' and contains references to Darwin, Claud Bernard, Cannon, Richter and others. For Bernard, a living organism was 'nothing but a wonderful machine endowed with the most marvellous properties and set going by means of the most complex and delicate mechanisms'. To him we owe the concept of the 'internal milieu' and to Curt Richter the concept of 'behavioural regulation'. In a section on 'The nutritionist tradition' there is a discussion of dietary patterns and Ca absorption containing references to McCance and Widdowson's work on white and whole-wheat breads and Ann Prentice's work on Ca in pregnancy and lactation.

The themes of the first chapter are continued in the second, with more detail about the behavioural and gustatory mechanisms that may underlie Ca appetite. The gustatory system is essential for the sensory exploration of the world around us, and is an active computational system that assists us in adapting to our surroundings. Drawing parallels with Na, it is suggested that the glossopharyngeal nerve might play a role in the detection of Ca ions. It is also suggested that gustation characterises one end of the alimentary tract and provides that important interface between regulating the internal milieu and exploration of the external environments to satisfy regulation requirements.

The brain generates the behaviour of Ca ingestion and this is most clearly seen in females during pregnancy and lactation (chapter three). Much of the discussion in this chapter relates to experiments in rats and it is not always clear that this is so. Women experience changes in food desirability during pregnancy manifested by cravings and aversions, but it would seem that these are unrelated to Ca ingestion. There is, however, a discussion of Ca metabolism and hormonal regulation in pregnant and lactating women.

Chapter four is concerned with the neural endocrine regulation of Ca ingestion focusing mainly on vitamin D, parathyroid hormone and calcitonin, with a section on the stress hormones.

The longer individuals live, the more important the role of Ca becomes in health and disease (chapter five). Ca requirements by ages, sex and reproductive status, achieving peak bone mass and the inter-relationships with bone health are discussed with brief mention of the effects of oestrogens and hormone-replacement therapy.

The message of the book is that Ca is regulated by both behaviour and physiology. There are not many instances of Ca deficiency in man affecting the ingestion of Ca, but this may occur in renal dialysis patients. There is wide variation in Ca ingestion across cultures. Mention is made of indications that Ca is important in the premenstrual syndrome, colon cancer and pre-eclampsia. It is important for maintaining health and for sustaining the quality of life in later years.

I enjoyed reading the book. It is compact, well illustrated with useful diagrams and can be warmly recommended to physiologists and nutritionists whether they are teachers, students or research workers seeking an introduction to this area of research. The paperback edition is reasonable value.

John W. T. Dickerson

DOI: 10.1079/BJN2001375