

## Book reviews

**Mathers, N., Williams, M. and Hancock, B.** 2000: *Statistical analysis in primary care*. Oxford: Radcliffe Medical Press. 128 pp. £15.95 paper. ISBN: 1 85775 387 9.

I start this review with an admission. Books on the application of statistical methods in health research for specialists from various backgrounds, including those with little experience of the topic, induce in me a degree of scepticism. This may be unfair, and may even be viewed by some as professional protectionism, and indeed this book does include sensible reservations about its limitations and the need to seek help from a 'friendly statistician'. The book is certainly approachable, written on the whole in an understandable style and with very high-quality layout and printing. However, you can see a 'but' coming here – in fact there are a number of them.

In my view the intended audience means that two (related) aspects of such a book are crucial. While some coverage of methods is unavoidable, the principal aim should be to explain crucial concepts in a clear and accurate manner. This should enable a general readership to tackle more extensive texts, courses and the relevant literature with a greater understanding of the issues, and should equip them for discussions with others about research planning, conduct and interpretation. Unfortunately, for me this book does not succeed in any of these respects.

First, contrary to current thinking and practice, the coverage of statistical methods concentrates almost exclusively on hypothesis testing. Although clinical significance is mentioned, the concept, methods and interpretation of comparative confidence intervals receive no coverage. Secondly, a number of important distinctive concepts are regularly confused – for example, accuracy and precision, generalizability and reliability, systematic and random error, standard deviation and standard error, and effect size and magnitude of effect. Moreover, throughout the book (including the glossary) there are a number of inconsistencies, ambiguities and plain errors in the definitions of key terms, ranging from basic characteristics such as (bi)modality and skewness to the concepts of

bias, statistical significance and use of the term 'casual'.

Although they are technically correct, in my opinion the detailed formulae that are given for sample-size determination are less useful than would be a more comprehensive coverage of the issues underlying sample-size planning. In particular, a clearer initial explanation of power would be helpful, as would more practical discussion of the specification (rather than 'estimation') of magnitudes of effect in sample-size calculations – for instance, target differences in randomized controlled trials. The inclusion in the book of an extremely short section on sampling for qualitative research does not do justice to the issue, and looks somewhat out of place. Finally, although they are very clearly explained and laid out, the two chapters on the use of specific statistical packages (SPSS for Windows version 6.1.3 and Epi info version 6.04a) are, in terms of the detailed syntax and output, inevitably somewhat out of date. In summary, I am afraid that there is little I can recommend about this book.

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**Wilson, A., Williams, M. and Hancock, B.** eds. 2000: *Research approaches in primary care*. Oxford: Radcliffe Medical Press. 176 pp. £15.95 paper. ISBN: 1 85775 392 5.

This new multiauthored text on primary care is the first in a series from Trent Focus. The editors feel that standard reference works do not satisfactorily cover many of the topics that are raised again and again by young researchers. This series aims to fill that gap in the market.

This first volume in the series is a well-produced paperback of a similar size to this journal, but fatter. These dimensions will ensure that the spine of the book will protrude beyond a row of books

of average width on a shelf. Some people will find this irritating but others will just file it conveniently with their copies of *Primary Health Care Research and Development!*

The substance of the text starts with an overview of research methods by Beverley Hancock, Trent Focus Research Co-ordinator. This is achieved in 21 punchy pages structured around content, exercises and answers to the exercises. The style aids self-directed learning and is easy to read due to the extensive use of bullet points and summary tables. The examples used to illustrate points are relevant to primary care. Depth of content is sacrificed but this is appropriate in a book for inexperienced research workers. This chapter also provides a 'signpost' function to other chapters in this work and to sections in other volumes in the series.

One omission from the content of this introductory chapter is the issue of 'scientific/theoretical coherence'. By this I mean setting each piece of new research into its theoretical context. Often this is done in a literature review, but it should also be picked up in the discussion in a paper. The issue is important in primary care, where much atheoretical and *ad hoc* research is still published. The atheoretical approach to research can lead to reinvention of the wheel, a waste of resources and a weak research tradition because the body of science in a discipline depends on rigorous attempts to achieve a coherence of theory and practice.

Chapter 2 on experimental designs is by Heather Wharrad from the School of Nursing. The style is commendably consistent and accessible. It will be easy for the beginner to find a topic of interest or browse to become familiar with common research concepts. Most of the examples are drawn from the socio-medical literature, with a refreshing bias towards nursing issues. Again depth has to be sacrificed and the importance of biological or psychosocial coherence is not made explicit.

In Chapter 3 Beverley Hancock provides 21 pages on qualitative research methods. 'Grounded theory' is mentioned as a core theoretical base in this area of research. Analysis of data is dealt with in this chapter, which makes a break from the rest of a book that otherwise focuses on research design and data collection. The reason for the inclusion of analysis in Chapter 3 is not stated, but it lies at the heart of a different relationship between researcher and data in qualitative research. Rigour in qualitative research is a hot topic and more difficult than in quantitative designs. The literature on this subject could have been strengthened by recent high-profile publications.

Chapter 4 (on surveys and questionnaires) and Chapter 5 (on interviews) are well written by Nigel Mathers, Nick Fox and Amanda Hunn from the Sheffield Institute of General Practice. The book finishes with an important chapter on observation by Nick Fox, a glossary of research terms and an index.

*Research Approaches in Primary Care* succeeds in its aim as a primer for the inexperienced research worker, but I hope that the next edition will incorporate the omissions described above. The editors have taken care to edit the text into a consistent style despite many authors being involved. Whether this book will complement the interactive Web-based developments in this area remains to be seen. My personal view is that books will always be needed and there is an important place for summary texts in addition to larger reference works.

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