

### Medical Biostatistics, 2nd edition

Indrayan A. Taylor and Francis Group, Boca Raton, Florida, 2008. Hardcover, 771 pages. ISBN 13-978-1-58488-887-1.

This second edition of *Medical Biostatistics* provides a comprehensive overview of aspects of research design, evidence-based medicine, and statistical methods for data analysis and presentation.

The book is intended mainly for students, medical and pharmaceutical researchers, health care professionals, and administrators. The material is also intended to be sufficiently comprehensive to be of interest to biostatisticians and their students.

The author's purpose is to present biostatistics (with an emphasis on uncertainty in research and practice) as a medical discipline. To ensure the usefulness of the material for health care professionals, the book emphasizes conceptual understanding, rather than theory or mathematical derivation.

The 21 chapters are organized in a sequence different from that seen in most statistics textbooks. The first 6 chapters focus on uncertainty in medicine, research design, and clinical trial methodology. Chapters 7 to 11 cover various aspects of measurement, variability, and presentation of research data. Chapters 12 to 19 address the core biostatistics topics, such as estimation, testing of statistical hypotheses, survival analysis, and an introduction to multivariable methods. The final 2 chapters deal with a variety of loosely connected topics, including quality of measurement and analysis and fallacies (mainly errors) in research design, data analysis, and interpretation and reporting of results.

The strength of this book is the range of topics, including research design and statistical methods for data analysis, and the fact that it focuses on conceptual understanding. The book contains adequate mathematical explanation, without going beyond the capability or interest of the intended audience. The numerous worked examples are, for the most part, easy to follow, and there is reasonably good use of figures to illustrate concepts. The principal weakness of this book lies in its explanations of fundamental concepts, including probability, confidence intervals,  $p$  values, and statistical significance. There are ambiguities and incorrect statements that will confuse or mislead those without an in-depth of knowledge of statistics. For example, the author does not make a clear distinction between frequentist probability (on which this biostatistics text is essentially based) and Bayesian probability (referred to in the text as "personal probability"). This problem pervades explanations for and interpretations of the  $p$  value, statistical significance, and confidence intervals. The author draws a distinction between quantitative and qualitative data (by which he means non-interval data) that is not often used elsewhere and which, given the rise in qualitative research methodologies, may also lead to confusion. The book also suffers from insufficient

editing, with many grammatical errors that occasionally result in ambiguous or incorrect statements.

Readers with little background in clinical research design might prefer *Designing Clinical Research: An Epidemiologic Approach*, by Stephen B Hulley and colleagues (Lippincott, Williams & Wilkins, 2006), or a similarly user-friendly introductory book, *Study Design and Statistical Analysis*, by Mitchell Katz (Cambridge University Press, 2006).

This book contains much useful information, which could benefit those already familiar with clinical research and the principles of biostatistics. However, during the preparation of an introductory course for PharmD students, I could not use very much of the fundamental material without causing confusion.

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### Managing Pain in the Older Adult

Jansen M, editor. Springer Publishing Company, New York, New York, 2008. Softcover, 228 pages. ISBN 978-082611567-6.

*Managing Pain in the Older Adult*, a well-organized review of the issues that arise in treating pain in older patients, highlights a holistic approach to pain management. I was very interested to learn that this text is available, as there are precious few resources available to support clinicians in identifying and appropriately treating pain in older individuals. Although some pharmacists may have trouble agreeing with certain sections, such as the one describing energy therapies, this book does provide a good overview of treatment strategies and could be of benefit to a variety of clinicians.

The strength of this text is its focus on a multimodal approach to developing and implementing an effective pain management plan. The authors start with an effective review of pain theories and the ways in which pain presents in older populations. The effect of persistent pain on the older individual is highlighted with a brief discussion of the types of pain syndromes commonly seen in this population. The authors present an approach that stresses the importance of looking holistically at the patient and taking into account not only the patient's reports of pain but also factors such as function and the psychosocial aspects of the pain. Through the emphasis on a comprehensive approach to pain assessment, we are given insight into a well-organized, patient-centred strategy for assessment and treatment.