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Book Reviews

Using and understanding medical statistics: 5th, revised and extended edition, D.E. Matthews, V.T. Farewell (Karger, Basel, Switzerland) 2015. 338 pages. Price: US$ 54.00/CHD 49.00/EUR 46.00

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This book starts with a preface to the first four editions. The authors write that there are some useful additions such as inclusion of source code with selected output for R package. The topics on Q plots for checking normal distribution, residual plots for checking the assumption for linear regression models, funnel plots for publication bias in meta-analysis, Bland-Altman plots for assessing the agreement between two alternate methods, confidence bands for Kaplan-Meier estimates in survival analysis, negative binomial and zero inflated Poisson regression models for count data are some of the additions in this edition.

The contents of the book are given in 23 chapters. The first impression anybody gets on going through the book is that the order and style in which the 23 chapters are given is different from other standard text and reference books in biostatistics. One can view this both positively and negatively. Positively in the sense that almost all the important aspects of data analysis in medical fields are covered in this book. However, negatively, these topics are given very briefly and may not be sufficient to understand and apply them in the analysis of data. This can mainly serve as the introduction to the different statistical methods which are applied to the medical data, some for basic and some for advanced analysis. Also, the order in which the different topics are dealt with is much different from other standard books in biostatistics. For example, the first chapter which is on descriptive statistical methods dealing with the definitions, graphs and the concepts and computation of statistical parameters such as means and standard deviations is brief. It would have been ideal to include more details on these aspects. It is uncommon that the chapter on significance tests is given soon after the descriptive statistics, again very briefly. A positive point is that the topic on Fisher's exact test has been dealt with in detail as compared to many other books. The chapters on warning in the analysis of data on 2×2 tables and combining results from different 2×2 tables have been given with examples which will be useful students and researchers.

Advanced analysis methods are given from chapter 6 onwards. The topics on Kaplan-Meier survival analysis, meta-analysis, proportional hazard models, longitudinal data analysis and clinical trials have been given just enough for understanding these methods and applying them in research. However, the details of these methods have to be sought by referring to some related books giving these chapters. Sample size estimation has been dealt with briefly. Sample size computation for many other designs are not given in this chapter. Chapter on clinical trials gives fairly adequate information for a beginner. In the chapters on diagnostic tests and agreement analysis methods information has been given adequately. These chapters will be useful for the researchers and postgraduate students in their data analysis. The chapter on meta-analysis gives the readers just enough information on the concept, importance and the common methods which are used.

In summary, this will serve as a good book for those who seek basic knowledge in advanced methods. The presentation of the book, in double colours-white and green is also good. As far as the medical students are concerned this book can be used as a supplementary one along with some other standard books in Biostatistics which are presented in the traditional format. Nevertheless, this book is recommended in the libraries of medical colleges and research institutes

for reference of the medical faculty and postgraduate students.

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