(46) Jerome Levine (ed) (1979)

Coordinating Clinical Trials in Psychopharmacology: Planning, Documentation and Analysis

Washington: National Institute of Mental Health, DHEW Pub (ADM) 79-803

Preamble

The book originated from a two-day meeting held in 1973 on documentation of data from a series of clinical trials on a given drug. It was hosted by the Biometric Laboratory of George Washington University and organised by the Psychopharmacology Research Branch of the National Institute of Mental Health, with support from the Neuropharmacology Division of the Food and Drug Administration.

The text references two earlier general publications on the design, methodology, and analysis of clinical trials; these are the WHO Technical Report Series no. 563 (see no. (33) above), and the FDA General considerations for the clinical evaluation of drugs (see no. (39) above). It also references a text on clinical trials in psychopharmacology, Principles and problems in establishing the efficacy of psychotropic agents (see no. (24) above), as well as two reports that deal with documentation: T McGlashan The documentation of clinical psychotropic drug trials (DHEW publication no. (HSM) 73 – 9038, Rockville, Md, 1973), and T McGlashan Early clinical drug evaluation units sample output package (DHEW publication no. (HSW) 73 – 9039, Rockville, Md, 1973).

Aims

There has been a longstanding need for techniques to reach conclusions about a drug's efficacy, safety, and role based on data generated from independent clinical trials. How to assimilate such data in a way to be able to reach valid conclusions which can be understood and verified by others is the challenge. It has been a problem for a long time but not one that, to my knowledge, has often been articulated, approached, or written about systematically. In contrast, in recent years there has been much attention given to the design, methodology, and analysis of individual clinical trials in general, and psychopharmacology trials in particular. This volume may be useful in the formulation of "guidelines" for comprehensive documentation and decision-making about a drug's efficacy, safety and therapeutic role, whether this be accomplished for innovative, regulatory, or academic purposes (Chapter 1, pages 1 and 4).

Contents (x+170+154 unnumbered pages of Tables, Figures, and computer programs) [Sub-sub headings omitted]

Contributors

- 1 Coordinating clinical trials in psychopharmacology: planning, documentation, and analysis: an introduction (Jerome Levine)
- 2 Planning a coordinated set of clinical trials (Harriet Kiltie)

Introduction

Planning the program

Documenting progress

Coordinating sets of studies within a program

Data documentation and display

3 Documentation of early phase II trials (William Guy)

Introduction

Documenting the master plan

Selection of investigators

Documenting adherence to the master plan

Documenting demographic characteristics

Documenting results – efficacy data

Documenting results – safety data

An efficacy index (EI)

Conclusions based on early phase II trials

3 Documentation of late phase II and phase III trials and the research completion report (William Guy)

Late phase II trials

Phase III trials

The research completion report (RCR)

4 General linear model analysis of variance (John E Overall)

Introduction

Preplanned experimental designs

Treatments x study interactions

Confounding and the interpretation of results

Least squares method for ANOVA of nonorthogonal designs

The analysis of covariance

Application to data from four drug studies

5 Combining data from studies with multiple outcome criteria (J Arthur Woodward)

Introduction

Computational methods

Multivariate test statistics

Testing for heterogeneity of within cell mean square matrices

The multivariate analysis of variance

Application to data from the Normaline versus placebo drug studies

Computer program for testing equality of regression planes

Computer program for testing equality of within cell error

Matrices in multivariate analysis of variance

The application of log linear models to the analysis of cross-classification data generated by single and multiple drug trials (Robert W Downing)

Introduction

The familiar chi-squared test re-examined

The structure and function of log-linear models for contingency tables

Illustrative applications to actual data

Footnotes

Models for combining summary statistics from multiple independent drug trials (John E Overall, J Arthur Woodward)

Introduction

Unweighted means analysis of variance

A standardized means model for combining summary statistics from several independent trials

Standardized means analysis of variance

Models for combining statistical probabilities

Summary of assumptions and requirements of combinatorial methods

Computer program for analysis of summary statistics from multiple independent studies

8 Epilogue, prologue, and a Bayesian approach (Eugene M Laska)

Epilogue

Prologue

Conclusion

Authors

The editor of this volume is Jerome Levine MD (Psychopharmacology Research Branch, National Institute of Mental Health, Rockville, Maryland, USA). The contributors are Robert Downing PhD (Associate Professor of Psychology in Psychiatry, University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania, USA); William Guy PhD (Associate Professor, Tennessee Neuropsychiatric Institute, Clinical Research Service, Vanderbilt University, Nashville, Tennessee, USA); Harriet Kiltie MD (Medical Director, Lederle Laboratories Division of American Cyanimid Company, Pearl River, New York, USA); Eugene W Laska PhD (Director, Information Sciences Division, Rockland Research Institute, Orangeburg, New York, USA); John E Overall PhD (Professor, Department of Psychiatry and Behavioral Science, University of Texas Medical School, Houston, Texas, USA); and, J Arthur Woodward PhD (Associate Professor, Department of Psychology, University of California at Los Angeles, Los Angeles, California, USA).