

BOOK REVIEW

ESSENTIALS OF BIOSTATISTICS & RESEARCH METHODOLOGY by **Indranil Saha and Bobby Paul**, Academic Publishers, Kolkata, 2023 (Fourth Edition) , Pp. 444+xi, ISBN 978-93-93662-21-7, Paper back, Price: Rs. 595/-

In overwhelming majority of the disciplines under science, as well as, few under arts and humanities, the use of statistics has enormously been noticed since many decades. With the help of various statistical tools, the theoretical aspects of each discipline may be explained in a clearer manner, as required. Quite a good number of authentic and established books are available on this particular subject, however, this one is inimitable in its demonstration in the field of biostatistics and research methodology. The first edition of this book was published in 2010 and the authors, on a regular interval, revised and updated the chapters with more precise examples and exercises along with authoritative references. This fourth edition, published in 2023, is substantially valuable and presented most appropriately for the students and researchers.

The authors of this book are Drs. Indranil Saha and Bobby Paul, who have received their MBBS and MD (Community Medicine) a long time back. Dr. Saha is attached with the Indian Council of Medical Research (ICMR), Centre for Ageing and Mental Health, Kolkata as Scientist – E. He has vast experience in epidemiological research of non-communicable diseases and biostatistics. He is attached with many journals and has published more than one hundred articles in journals of national and international repute. On the other hand, Dr. Paul is affiliated to the department of Preventive and Social Medicine, All India Institute of Hygiene and Public Health (AIIPH), Kolkata as Professor and Head. She has substantial teaching and research experience in medical education, epidemiology and research methodology. She has published more than one hundred fifty research papers in both national and international journals. Both of them should be highly appreciated for writing, revising and regular updating the book for the benefit of researchers of varied domains.

The book is divided in two major subdivisions, viz. biostatistics and research methodology. Each subdivision is further divided in a number of chapters by maintaining a logical sequence. There are 17 chapters in the book, of which 11 chapters are dedicated to biostatistics, while the rest 6 chapters have discussed different domains of research methodology.

Under biostatistics, at the outset, the authors initiated by illustrating various terminologies, data types, scales of data along with graphical representation of the data. The following chapters have discussed some basic statistical methods like probability, central tendency, frequency and percentage and distribution of both

qualitative and quantitative variables, and most importantly, the sampling methods and various ways of estimating appropriate sample size for different types of research. The concluding chapters demonstrated the inferential analyses in the form of correlation matrix and regression analyses, in which, suitable statistical models were shown to infer specific research questions. These chapters, although have covered many important models, few should be added in the next edition, like rank correlation, statistical power estimation, ROC curve and some more. The authors put enormous emphasis on graphical representation of data and dedicated a part of their book in explaining different modes of such representation in an extremely lucid and student friendly manner, which is worth appreciation.

The second part of the book, i.e. research methodology, the authors have covered an overwhelming majority of the domains related to research in science and arts and humanities. Starting with some basic definitions, the authors have successfully explained the importance of different research designs, along with majority of the techniques and methods that are used in fieldwork to collect data and information. The importance of literature surveys and use of secondary data sources were clearly explained in the following chapter. A book of research methodology without a chapter of research ethics is like universe without the sun, and this is not an exceptional book in this matter. By providing a very brief history, the chapter on ethics is really well written with illustrating majority of the pertinent aspects on biomedical research. It would have been more worthy if some points on ethical issues were discussed on research for different subjects under arts and humanities in specific and generalised manners. The inclusion of last chapter, which gives the readers a vast idea about publication issues, is absolutely a praiseworthy step. It demonstrates step-by-step method of publication of articles in scientific journals and edited books, information about different databases like Academia, Scholar Google etc., concepts of different IDs, like ORCID and finally different scoring system, like h-index, i10-index, citation score and many more.

All the chapters are substantially equipped with pertinent examples and each chapter is ended with relevant exercises along with answers, which, I personally found very useful for the students and researchers. The book ended with some statistical tables given in appendix and sequentially maintained index.

I express my personal gratitude to the authors and I shall be happy to see its inclusion in library of every academic and research institutions.

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