

BIostatistics in Clinical Medicine

J.A. Ingelfinger et al
Second Edition, 1987
Macmillan Publishing Company
866 Third Avenue
New York, New York 10022

The second edition of "Biostatistics in Clinical Medicine" like the first, remains, a clear, instructive text promoting the value of appropriate statistical analysis in everyday clinical decision-making. Plausible clinical problems are used to introduce lead topics in each chapter. The authors walk the reader through the mathematical concepts by applying the principals of biostatistics to patient diagnosis and follow-up health care. The book will be of value, to those required to study biostatistics at some time during their professional training programmes. Through the work of Ingelfinger et al students are more likely to come to understand the importance of statistics in everyday patient care. For members of the professions already in practice, the book is readable, and although challenging, basic enough to allow for much self-learning. It will be of help to anyone interested in sifting through the barrage of scientific literature available today, in order to make clinical decisions. Although all of the examples in the book are medically oriented, the additional background information after each problem allows readers with little knowledge of the problem itself to participate in the exercise.

Very little has been changed from the 1983 edition of "Biostatistics in Clinical Medicine". A few papers have been added to the background information regarding such problems as the diagnostic work-up of pancreatic cancer, and urinary tract infections. More additional readings have been cited, and the list has been slightly updated. The chapter on Samples, Populations and Inference has been removed, however, the information seems adequately covered in those chapters which are available. Also, two new chapters have been added, which include such difficult topics as multiple regression and life-table analysis. Though the discussion of both topics is somewhat terse, it is clear that the intent is to reach the more basic needs of individuals not necessarily accustomed to statistics.

With the addition of these new chapters, the book maintains its reputation for dealing with issues not normally covered in "basic biostatistics. As in the previous edition, for example, the Poisson distribution and its usefulness is clearly outlined. Practical issues such as reading the computer output for logistic regression as well as the analysis of variance will, no doubt help both the novice researcher and the clinician to understand how to use these tests, and how to apply the information they provide.

The great emphasis on probability seen in the first edition is happily unchanged. It continues to be a pleasure to read about probability in terms of drug toxicity and hemophilia, rather than coin-tossing and colored marbles in Greek urns as found in most classical texts.

Power analysis is covered well and clearly. This is important as the awareness of statistical power grows amongst the research communi-

ty. Further, the authors have done well in relating important information which few texts help the reader to understand. The concept of "regression towards the mean" and the relationship between chi-square and the gaussian distribution are highlighted as examples of this. Also, an appropriate amount of time is spent discussing "outliers" and how they should be dealt with. The discussion on analysis of variance and regression may have profited from more detail, given the complexity of the issues involved, however, the authors do, as always present references for additional reading for those more interested in these specialized topics.

Missing from this otherwise excellent text is the popular Cohen's kappa Variability between patients is well discussed, however, the reliability beyond chance of clinical observations is never considered.

In all, "Biostatistics in Clinical Medicine" is highly recommended to those health care professionals and students interested in beginning their understanding of research and the mathematics research involves. It is both interesting and informative. This latest edition is essentially unchanged from the previous one except for a few minor additions to update some material. The two new chapters deal well, but somewhat superficially with some complicated but timely concepts.

Marion McGregor, DC, FCCS(C)

SITTING ON THE JOB

by Scott Donkin, DC
Published by Parallel Integration, Lincoln, Nebraska
available from Gage in Ontario, or
Canadian Memorial Chiropractic College Bookstore
\$13.95 (Cdn.)

It is always a pleasure, to review a text written by a chiropractor. This softcover text of nearly 200 pages is a practical survival guide for people who earn their living while sitting, as the author describes it on the cover of his text.

He sets out to discuss the problem of stress, physical as well as mental, for people who earn their living while sitting, needlessly enduring excessive pain, stress and strain during their work and in their lives. Many people feel that pain, stress, and strain are necessary evils in today's "civilized", "sophisticated, and technological" society. He believes that although these complaints are common, they are not normal.

One of the primary solutions is to help people understand the nature of the work and work environment so that they can learn how to achieve greater comfort and productivity at their work stations, and how to counteract the possible negative effects involved with the type of work they perform. A well designed chair cannot achieve its maximum effect unless the user understands how to make it fit his/her body and use it in a manner for which it was designed. The same is true for well designed work stations, equipment and other instruments that one uses in the performance of one's task.

The book describes practical methods to help to create a better fit between work environment, work station, and one's unique body. The

* Book Review editor, Dr Z Szaraz DC

book also gives practical techniques to reduce stress, counter-effects of sitting, and thus enhancing the quality of one's life.

The book is written with the lay person in mind. It is simply written, yet discusses the conditions and their effects in detail – considering spinal anatomy and biomechanics.

The layout of the text is excellent; e.g. diagrams are on the top page with discussions relating to them under each diagram. Illustrations are very depictive and are utilized very effectively throughout the text.

The text covers specific work stations, work surfaces, chairs, arrangements of desk space, office environment and lighting conditions, and then discusses common physical complaints such as eye strain, back pain, neck pain, shoulder and arm symptoms, headaches, etc., etc.

Special chapters are dedicated to understanding and controlling stress, including chiropractic care in the management of stress. Another chapter is dedicated to exercises, its requirements and hazards. Included are pictorial descriptions of useful exercises at work during mini breaks and lunch breaks, as well as recreational activities.

Another chapter discusses principles of sleep and proper sleeping postures with the advantages and disadvantages of sleep surfaces, sleep postures and the use of cervical pillows.

An interesting chapter is entitled, "Replacing undesirable habits". This is an extremely interesting and well illustrated chapter, discussing in short review form, the abnormal and undesirable habits that people take up while sitting, in contrast to desirable postures.

In summary, this is an extremely useful text – well written and well illustrated for patient education, and in fact, for personal use. A highly recommended text for a wellness practitioner.

Zoltan T. Szaraz, DC, FIACA

BECOMING A DOCTOR

Melvin Konner, M.D.

Viking Penguin Inc.

40 West 23rd Street, New York, NY 10010

390 pages, \$25.95 (Cdn.)

When a past-professor of anthropology decides to take up medicine at age 35 and then comment on his observations and experiences as a medical student, one might well expect an erudite and objective study to result. To a certain extent, such is the result in this book, particularly so in the final chapter. However, most of the book is in the form of a personal, anecdotal, "travelogue" through medical school which, notwithstanding its consequent greater "readability", exposes the author to criticisms of *inter alia* subjectivity. This could certainly have destroyed his case had it not been for the fact that many of the issues raised by him are well documented, current causes for concern amongst medical educators. This style of presentation has at least one other effect – it gives the author the opportunity, which he uses frequently, of demonstrating his, and at times that of others, sensitivity to human suffering – occasionally and unfortunately, to the point of sentimentalism.

However, it is the lack of the evocation of human compassion in

medical education that constitutes the central theme of this book. What has gone wrong with the system? Why should such a fuss be made of compassion? And what relevance does all this have for chiropractic?

Chiropractic education is, to a large extent, modelled on traditional medical education and, therefore, responsible observations of problems within medical education can have definite implications for chiropractic education. The healthy exercise, I believe, in reading this book is for the chiropractor to insert his profession wherever mention is made of medicine and then to reflect on where we stand in relation to the issues raised.

The issue of the lack of human compassion in a teaching hospital setting, according to Dr. Konner, has its roots in many sources and, therefore, an examination of the whole system becomes necessary. He talks of "knowledge assembly lines" where excess material is taught ("too many facts are being taught too thoughtlessly in too short a time"), much of which is forgotten. He talks about there being no evidence that that which has been learnt in the systematic and quantitative study of human memory over the past 100 years, has ever been applied to how much material should be taught at medical school. To complement this he states: "As for pedagogical skill, it is assumed to be in the bones of academic physicians". He comments on the overwhelming amount of work resulting in chronic exhaustion, the student/intern/resident then functioning as a "feelingless automaton". He puts this experience in the following terms: "Events continued to cascade over to me at a pace that made it impossible to think about them or put them in order. Stress was the mode of learning, and I could only assume that I was absorbing something, but I had no idea what it was".

Now talk of this nature would undoubtedly win a landslide victory for any politician amongst students and a tirade of abuse from the academic staff, but if the observation is universal, perhaps a new balance needs to be struck. The compilation of the experiences of student counsellors from all chiropractic colleges in this regard may prove instructive.

Dr. Konner further makes the point that if 85% of the information needed to make a diagnosis is in the history, as is often stated, then he wonders why so little emphasis in medical training is placed on how to talk to patients, (and I might add, "and how to listen to them"). He suspects that it is so because so few doctors know how to, and therefore no provision is made for such in the curriculum, and worse, there is consequently a dearth of good role models for the students.

Another issue relating to a lack of compassion is that Time has been deified. This is understandable in life-and-death situations where snap and accurate decisions can be life-saving. However, the habit seems to have spilled over into all areas of everyday practice, so that Productivity becomes another god as well as a way of life, thus diminishing the opportunity or the inclination for the reflective or the humane.

The question of adequate training is queried through the example of two surgical residents, one who was about to qualify and had only seen one example of a particular procedure, the other has seen three. How sufficient are the number and variety of cases seen by chiropractic interns by the time they graduate?

The author almost went into raptures in describing an occasion

when he noticed an intern walk in on a patient experiencing an attack of tachycardia and immediately started massaging the patient's carotid bodies. "It was an elegant thing to watch, not just because it was a textbook tactic that everyone always doubted but because it was so absurdly simple. Hippocrates could have done it. It was a victory over technology, pharmacology, surgery, a triumph for everything simple that had gone out of modern medicine. It was one lone smart doctor against disease and the world". Undoubtedly the words of a romantic! Perhaps Dr. Konner might have felt more at home in chiropractic. Another gem: "If you want to be a 'fixer' don't go into neurology; but if you want to be a 'healer' it may be the field for you". Buttery words to any chiropractor's ears, but the author had vested interests - he was a neurologist!

Other topics he covers to a lesser extent, include what he feels are the attributes of good and poor teachers as well as learning methods.

Even the wellness concept, although not mentioned by name, receives accolades. For those interested in House Officer Slang, an interesting, insensitive and definitely irreverent glossary of terms is appended.

Philosophical issues which are implicit in the reading of this book include the reductionist/holistic paradigms, the biomechanical/wellness paradigms and "has the patient become the enemy?" concept.

Dr. Konner's types of experiences are not new to medicine; his observations are, I believe, sometimes overly simplistic; yet his cause has my full support.

Where does chiropractic stand in this regard? Read the book, particularly if you're involved in chiropractic education - I'd like to hear your comments.

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