

BOOK REVIEW / CRITIQUE DE LIVRE

Between the Lines: Finding the Truth in Medical Literature. By Marya Zilberberg. Goshen, MA: EviMed Research Press, 2012. 170 pages (paperback) index ISBN-13: 978-0985456207. US\$12.95.

Between the Lines: Finding the Truth in Medical Literature is intended to give consumers some basic tools to assist them in examining medical literature critically and systematically. The author, Dr. Zilberberg, is a physician researcher who holds a Masters in Public Health and is an Adjunct Associate Professor of epidemiology at the University of Massachusetts.

The book is written in a conversational style and includes 22 chapters divided into two sections on context and evaluation. The context section “serves to set the stage for how we should think about science, particularly the science that informs the practice of clinical medicine.” The evaluation section discusses the fundamentals for evaluating the components of a study: question, design, analyses, results, reporting, and conclusions.

The intended audience is broad: it will interest the public, provide a refresher for clinicians and journalists, and serve as a must-read for public relations professionals who write medical news releases. I would add that it is particularly useful for health sciences librarians who instruct others about the principles of evidence-based medicine or who work with consumers.

Dr. Zilberberg leads the user through the rocky terrain of understanding medical literature and the hierarchy of evidence. She encourages healthy skepticism about claims, such as does a denominator really represent the pool of cases at risk for a condition, and what are the pros and cons of diagnostic tests and medical testing.

The discussion of a range of biases, namely interpretation, confirmation, rescue, auxiliary hypothesis, plausibility–mechanism, time will tell, and hypotheses and orientation biases, in the two “When the Brain Gets in the Way” chapters with pertinent examples was illuminating. Not only was I unaware that there were so many types of biases, but I also didn’t fully appreciate that our preconceived notions prevent us from evaluating data on its own merits. We reject anything that does not agree with what we think we know:

“This is one of the difficulties in advancing scientific knowledge, since all of us are far more skeptical of what contradicts than of what confirms our beliefs.”

The chapters on evaluation are very well presented. Dr. Zilberberg discusses study design and the PICO (population, intervention, comparator, and outcome) or PECOT (population, exposure, comparator, outcome, and time) process in formulating scientific questions. Several chapters explore different types of study design such as randomized controlled trials, cross-over, interrupted time (interventional), ecological, cross-sectional, case-control, and cohort (observational) studies. Particularly valuable is Chapter 14 on study design: Zilberberg presents a simple four step exercise–flowchart approach to judge if the design is appropriate. There is also a useful table that lists the time frame and the advantages and disadvantages of common study design categories.

The last chapter on study design and conclusions is a concise and excellent summary of the three questions an educated consumer or professional needs to ask when reading the medical literature: (i) Has the study answered the question posed? (ii) Is the study reporting appropriate, transparent, and complete? (iii) Are the study conclusions valid? Are they valuable?

The book succeeds in its purpose to develop the reader’s interpretation toolbox for medical literature, although the chapters on interpreting statistical significance and validity would be daunting to many educated consumers. However, this is not a major drawback and the book is highly recommended (and a bargain at the price) for consumers and health sciences librarians, particularly those who provide assistance to the public or teach students how to formulate scientific questions and evaluate medical studies.

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