Research and Evidence-based Medicine

The practice of evidence-based medicine has increased steadily in past years. Initially conceived for helping in decisions regarding treatment, diagnosis, and therapeutics in clinical practice, it has recently found champions in almost every area of medical science and anesthesiology, clinical practice included. Despite the large number of critics, it has come to stay, and, at least, cannot be ignored.

One fact defines evidence-based medicine: the use of statistical data derived from research about populations to support decisions regarding individuals. Thus, data derived from focused and systematic investigations and aimed at creating new knowledge. Briefly: research. There is genuine research and bad research, which, despite being well intended, is conducted by amateurs; to distinguish them is a challenge that requires learning, training, and judgment.

Thousands of medical journals are published every year, in addition to others dedicated to publish abstracts of the formers. How many of such texts will prove to be of true and lasting scientific value? An optimistic estimate lies around 10% to 15%. Lay newspapers are read today and discarded tomorrow. Journalists get paid according to the number of pages they write, caring for neither those who read those pages nor their level of perception about the information provided. That is the method of journalistic review; an overview, the opposite of the review of primary studies analyzed in a systematic, standardized, and objective way. A systematic review contains description of objectives, materials and methods, performed according to an explicit and reproducible methodology. Many of the review articles, and they are hundreds in most journals edited in Brazil, are still produced and written in the "journalistic" way.

Experts define three levels of reading: 1) the superficial, in which we browse (or electronically consult) journals searching for something that may be of interest; 2) the search for information, through which we approach literature in an attempt to find out answers to specific problems that we face; 3) and research, in which we try to achieve a wide view of a defined area. In practice, reading of the superficial type prevails. And that is the characteristic of most review articles sent to editors. If the reading is superficial, it may be of any type and occur at any order; the satisfaction of reading is what counts. However, if the reading is aimed at search for information (focused research) or investigative purposes (systematic review), we waste time and miss many good articles if we simply research randomly. For this purpose, databases and indices have been created, to organize scattered information and to gather articles about specific topics published in different journals.

Occasionally editors of medical journals have to experience the frustration of rejecting articles that may have originated from a good idea, but have insoluble defects and errors in their methodology. However, in many published articles, small flaws are present, leading purists to state that 99% of the articles published should have been discarded and not used to support decision making in the practice. Theoretically, there is no reason to test a scientific hypothesis that has already been proved by others. Only a small fraction of medical research deals with truly new areas. However, it is worth developing studies that are not original. The texts of meta-analyses derive from the existence of more than one study approaching the same question in a similar way.

Evidence-based medicine determines the reading of articles, but of the "right" articles that can change clinical behavior. Many clinical approaches, or even lectures of experts, are justified by the citation of the results of a single study published, even if the physician or the lecturer completely ignores the methodology used to produce those results. Was the study controlled and randomized? Double-blind? Was the size of the sample adequate for conclusions? Which are the inclusion and exclusion criteria? This list can be longer, but physicians who publish, and, thus, produce results, and those who replicate that knowledge must answer those and other questions before taking action.

The evidence-based medicine movement has progressed supported by a more practical methodology to incorporate the patient's perspective at the time of clinical decision making, of the implementation of health policies (with a great emphasis on costs), and of the conduction of research trials. Medical journals begin to implement increasingly strict rules for the acceptance of clinical trials, to which researchers and clinicians should gradually get adapted.

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