

Editorial Article

Evidence-Based Medicine (EBM) and Clinical Practice

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Editorial

The interest around EBM was born from the belief that it might reduce the concerns raised in recent years about health care. Such concerns involve the quality of medical practice, the unwarranted variation in the use of medical procedures, and the risk of decreasing quality of care of physicians as they progress in their practice, as outlined in the following paragraphs.

There is evidence that the quality of medical practice is not consistent with the ongoing development of the medical knowledge [1,2]. Diagnostic and therapeutic practices of proven effectiveness are often underused, whereas other practices are overused in contrast with trustworthy clinical practice guidelines, and their improper use can result in.

A pointer of such inconsistencies is the well-demonstrated existence of considerable variation of care in the clinical practice, not explained by patients' characteristics or preferences, and instead related to local clinical routine, physicians' specialties, training and opinions, and other factors [3,4].

Finally, there is evidence that doctors frequently perform their practice as a series of automatic interventions according to the standard formula [if...then...], a practice resulting in lower professional skills and in providing lower quality of care as they progress in their medical career [5,6].

Can EBM contribute to overcome these concerns?

"Within 5 years of the first proposal [in 1992], evidence-based medicine (EBM) has received enthusiastic endorsement from editors of prominent medical journals, achieved the publicational outlet of its own new journal, and acquired the sanctity often accorded to motherhood, home, and the flag" [7]. Though ironic, this statement by Feinstein and Horwitz provides an exact account of the fervent acceptance of EBM in the medical literature. According to the precepts of EBM, clinicians should identify and adopt methodologically sound published evidence when deciding on the treatments or diagnostic procedures for their patients. However, EBM has been conceived according to two different approaches: EBM as a new paradigm of clinical practice, or EBM as a component of the physician's expertise in the care of an individual patient.

EBM as the new paradigm of clinical practice. According to the Evidence-Based Medicine Working Group (chaired by Gordon

Guyatt): "A new paradigm for medical practice is emerging. Evidence-based medicine de-emphasizes intuition, unsystematic clinical experience, and pathophysiologic rationale as sufficient grounds for clinical decision making and stresses the examination of evidence from clinical research" [8]. In Kuhnian terms, EBM should replace the "no longer tenable paradigm of traditional medical practice," as reaffirmed and expanded in the three editions of the Users' Guides to the Medical Literature published up to date [9-11]. This concept of EBM disregards the clinical expertise of physicians in caring individual patients, acquired through a lifelong habit of learning and reflection at the workplace. Population-derived research evidence has its role but cannot overlook the physician's approach to the care to the individual patient.

EBM as a component of the expertise of clinicians and of the preferences and values of patients can contribute to approach the current concerns on the quality of medical practice. This EBM model was introduced by David Sackett "Evidence-based medicine involves the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence-based medicine consists of integrating individual clinical expertise with the best available external evidence from systematic research. By individual clinical expertise we mean the proficiency and judgement that individual clinicians acquire through clinical experience and clinical practice." [13].

However, EBM is not of help to approach two cardinal components of the clinical expertise, ie diagnosis and patient-doctor relationship.

EBM and diagnosis.

The diagnosis and the diagnostic process are weak points of EBM. In the publications by the Sackett's group the chapter on diagnosis is fully dedicated to diagnostic tests. The Users' Guides to the Medical Literature (3rd edition) report the standard distinction between "pattern recognition" and "probabilistic diagnostic reasoning", the latter representing an inadequate and partial definition of the analytic diagnostic process [14]. Neither the series of publications by the Sackett's group nor the Users' Guides contain any information on the cognitive aspects of the diagnostic process (e.g. generating hypotheses, comparing the information provided by patients with memorized illness scripts, or the important issue of diagnostic errors). Eventually, the Fowler's statement that, "evidence-based medicine only follows when a correct diagnosis has been made" appears to be appropriate [15].

EBM and the patient-doctor relationship.

The physicians' attitude towards establishing a sound relationship with the patients represents a key element of good practice [16, 17]. As written by Osler: "Medicine is more than the sum of our knowledge about diseases. Medicine concerns the experiences, feelings and interpretations of human beings in often extraordinary moments of fear, anxiety and doubt." The seeds of this concept should be conveyed to students in the medical school, and then developed in their professional career. Instead, there is evidence that the natural empathy and patient-centered approach of the medical students tends to decline as they progress in their clinical curriculum [18], and that patients frequently complain about inappropriate behavior of physicians, stressing disrespect, misinformation and perceived unavailability [19]. Although this aspect clearly would require special attention, there is no element in the EBM-related educational initiatives to foster a positive and compassionate relationship of physicians with their patients.

Outside EBM: deliberate practice.

Another citation from Osler is relevant here: "To study the phenomena of disease without books is to sail an uncharted sea, while to study books without patients is not go to sea at all." Beyond and before the search and use of population-derived evidence from the literature and in contrast with a practice performed routinely by means of automatic interventions, the performance of "deliberate practice" [20], is a key for a sound approach to the medical profession. "Deliberate practice" i.e. a practice associated with reflection and continuous learning at the workplace is a key factor of the medical profession as shown by the relationship between large volume of medical practice and improved outcome in many clinical areas (e.g. myocardial infarction, heart failure, pneumonia, and surgery [21, 22]). The EBM movement should not bring about the unintentional effect of distracting young trainees from deliberate practice and continuous learning in the workplace.

Moving towards a tentative conclusion: EBM can be conceived as the search, evaluation and use of literature evidence to support the approach to clinical problems. EBM, i.e. the search and use of published evidence, is only a component and not a new paradigm of physicians' professional skills and clinical expertise.

References

1. McGlynn EA, Asch SM, Adams J, Keesey J, Hicks J, et al. (2003) The quality of health care delivered to adults in the United States. *N Engl J Med* 348: 2635–2645. [crossref]
2. Mangione-Smith R, DeCristofaro AH, Setodji CM, Keesey J, Klein DJ, et al. (2007) The quality of ambulatory care delivered to children in the United States. *N Engl J Med* 357: 1515–1523. [crossref]
3. Chassin MR, Brook RH, Park RE, Keesey J, Fink A, et al. (1986) Variations in the use of medical and surgical services by the Medicare population. *N Engl J Med* 314: 285–290. [crossref]
4. Wennberg JE (2005) Variation in the use of Medicare Services among regions and selected academic medical centres: is more better? Duncan W. Clark Lecture, New York Academy of Medicine.
5. Choudhry NK, Fletcher RH, Soumerai SB (2005) Systematic review: the relationship between clinical experience and quality of health care. *Ann Intern Med* 142: 260–273. [crossref]
6. Southern WN, Bellin EY, Arnsten JH (2011) Longer lengths of stay and higher risk of mortality among inpatients of physicians with more years in practice. *Am J Med* 124: 868–874. [crossref]
7. Feinstein AR, Horwitz RI (1997) Problems in the "evidence" of "evidence-based medicine". *Am J Med* 103: 529–535. [crossref]
8. Evidence-Based Medicine Working Group (1992) Evidence-based medicine. A new approach to teaching the practice of medicine. *JAMA* 268: 2420–2425. [crossref]
9. Guyatt G, Rennie D (2002) Users' guides to the medical literature. A manual for evidence-based clinical practice. *JAMA & Archives Journals*.
10. Guyatt G, Rennie D, Meade MO, Cook DJ (2008) Users' guides to the medical literature. A manual for evidence-based clinical practice. Second Edition. *JAMA & Archives Journals*, the McGraw Hill Companies.
11. Guyatt G, Rennie D, Meade MO, Cook DJ (2015) Users' guides to the medical literature. A manual for evidence-based clinical practice. *McGraw Hill Education*.
12. Kahneman D (2012) *Pensieri lenti e veloci*. A. Mondadori Editore, Milano.
13. Sackett DL, Rosenberg WMC, Gray JAM, Haynes RB, Richardson WS (1996) Evidence-based Medicine. What it is and what it isn't. It's about integrating individual clinical expertise and the best external evidence. *BMJ* 312:71–72
14. Pagliaro L, Bobbio M, Colli A (1997) *La Diagnosi in Medicina*. Raffaello Cortina Editore. Milano
15. Fowler PBS (1997) Evidence-based diagnosis. *J Eval Clin Pract* 3:153–59
16. Ridd M, Shaw A, Lewis G, Salisbury C (2009) The patient-doctor relationship: a synthesis of the qualitative literature on patients' perspectives. *Br J Gen Pract* 59: e116–133. [crossref]
17. Truog RD, 200th Anniversary article. Patients and doctors – the evolution of a relationship. *N Engl J Med* 2012; 366: 581–85
18. Hojat M, Mangione S, Nasca TJ, Rattner S, Erdmann JB, et al. (2004) An empirical study of decline in empathy in medical school. *Med Educ* 38: 934–941. [crossref]
19. Wofford MM, Wofford JL, Bothra J, Kendrick SB, Smith A, et al. (2004) Patient complaints about physician behaviors: a qualitative study. *Acad Med* 79: 134–138. [crossref]
20. Ericsson KA (2008) Deliberate practice and acquisition of expert performance: a general overview. *Acad Emerg Med* 15: 988–994. [crossref]
21. Birkmeyer JD, Siewers AE, Finlayson EV, Stukel TA, Lucas FL, et al. (2002) Hospital volume and surgical mortality in the United States. *N Engl J Med* 346: 1128–1137. [crossref]
22. Davoli M, Amato L, Minozzi S, Bargagli AM, Vecchi S, et al. (2005) [Volume and health outcomes: an overview of systematic reviews]. *Epidemiol Prev* 29: 3–63. [crossref]

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