

Evidence Based Health Care

A scientific approach to health care

*Kamlesh Bhargava,¹ Deepa Bhargava²

الرعاية الصحية المبينة على نتائج البحوث مدخل علمي للرعاية الصحية

كامليش فارجافا، ديبا فارجافا

SINCE THE SECOND WORLD WAR, HEALTH CARE has witnessed tremendous advances in basic, applied and pharmacological research. This has resulted in an information overload for health care professionals. Initially, evidence from research was not widely available due to lack of resources, but in the past two decades, with the advent of the internet, things have changed rapidly. The internet has become a powerful tool in health care decisions. Health care decisions can range from opinion based, with little attention to evidence from research to evidence based, where decisions are derived from scientific research.

The term Evidence-based Medicine (EBM) first appeared in the American College of Physicians Journal Club in 1991.¹ The exponential interest in this field can be judged by the Pubmed citations: from one in 1992 to 25,184 in April 2007 [Figure 1].

EBM requires the integration of the best research evidence, clinical expertise and the patient's unique values and circumstances [Figure 2]. Clinical expertise comes from good history taking, physical examination and years of experience and the patient's values include social and cultural factors besides the individual's ideas concerns and expectations.

In order to make the best decisions in our day to day patient care, we need valid information about prevention, diagnosis, prognosis and treatment. The traditional sources for this information are inadequate because they are out of date (textbooks), frequently wrong (experts), ineffective (didactic continuing medi-

cal education), or too overwhelming in their volume and too variable in their validity for practical clinical use (medical journals).²

The two principles of EBM are hierarchy of evidence and insufficiency of evidence alone.³

HIERARCHY OF EVIDENCE

Evidence available in any clinical decision-making can be arranged in order of strength based on its likelihood of freedom from error. For example, for treatment decisions meta-analyses of well conducted large randomized trials may be the strongest evidence, followed by large multi-centric randomized trials, meta-analysis of well conducted small randomized trials, single centred randomized trials, observational studies, clinical experience or basic science research

INSUFFICIENCY OF EVIDENCE ALONE

Evidence alone is not enough it has to be integrated with clinical expertise, patient's expectations and values.

Various terms like Evidence-based Nursing, Evidence-based Dentistry, Evidence-based Psychiatry, and Evidence-based Health care have been used under the generic term of 'Evidence-based Medicine'.³ Evidence used to make health policy and management decisions for populations has been termed Evidence-based Health care (EBHC).

THE GROWING NEED FOR EVIDENCE-BASED

¹Family Medicine and Public Health Department, College of Medicine and Health Sciences, Sultan Qaboos University Hospital, P. O. Box 35, Al-Khod 123, Muscat, Sultanate of Oman; ²Department of Surgery (ENT Division), Sultan Qaboos University Hospital, P. O. Box 38, Al-Khod 123, Muscat, Sultanate of Oman

*To whom correspondence should be addressed. Email: drkamlesh@gmail.com

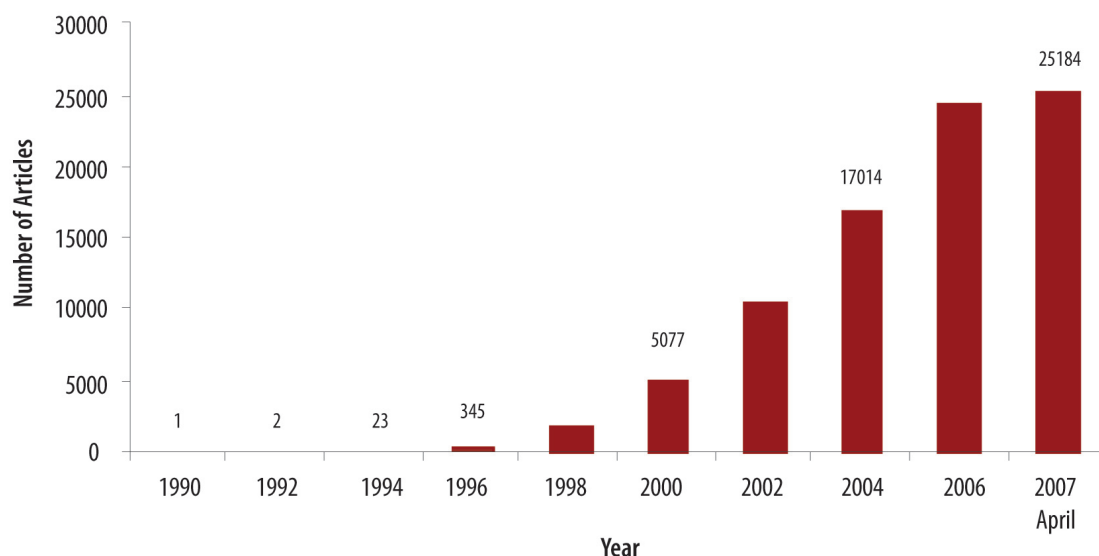


Figure 1: The exponential increase in the number of articles with Evidence-based Medicine in the title or abstract in Pubmed (Jan 1990 to April 2007)

HEALTH CARE

The need and demand for EBHC is growing rapidly because of the following factors: information overload, rising patient expectations, the introduction of new technologies and ageing populations.

In the past, health care managers tended to focus on cost and quality, thus “doing things right” and leaving “doing the right things” to other forces and chance. This situation is rapidly changing and everyone involved in decision making must use evidence to enable them to

make decisions about “doing the right things”. These skills are necessary for provision of health care in the 21st century ⁴ [Figure 3]. In situations where there is poor quality evidence, the decision maker will have to depend on his experience, available resources and patients expectations and values.

SCOPE OF EVIDENCE-BASED HEALTH CARE:⁴

1. Producing evidence (research)

- a. Research workers are responsible for producing evidence. For this there are two frameworks, one provided by decision makers

Table 1: The top 10 most useful sites for obtaining evidence

Information Source	Website
Cochrane Library	http://www.update-software.com/publications/cochrane/
TRIP database	http://www.tripdatabase.com/index.html
Pubmed	http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?DB=pubmed
SIGN - Guidelines	http://www.sign.ac.uk/
SUM Search	http://sumsearch.uthscsa.edu
UpToDate	http://www.uptodate.com
eMedicine	http://www.emedicine.com
Best bets	http://www.bestbets.org
National Guideline Clearinghouse	http://www.guidelines.gov
Clinical evidence	http://www.clinicalevidence.com/ceweb/index.jsp



Figure 2: To make clinical decisions all the three components Evidence, Experience and Expectations are required

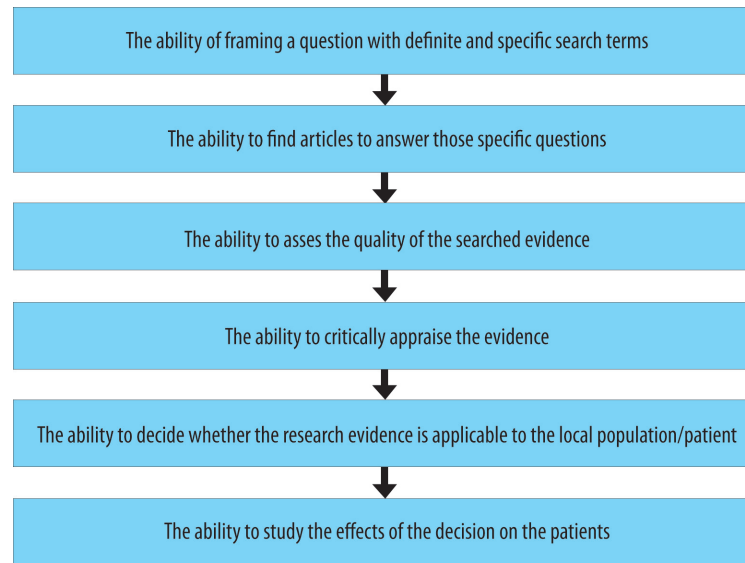


Figure 3: Skills required of a practicing Evidence Based Practitioner

commissioned by governments or research councils. The other is provided by the researchers who seek funding to support their research projects.

- b. Making evidence available. It is vital to make the research evidence available especially at the point of care, or the value of the new evidence can never be realized [Table2].
 - c. The evidence obtained can be used in two ways: firstly to improve clinical practice and secondly to improve health service management.
2. **Evidence-based clinical practice**

This is an approach to decision making where a clinician uses the best evidence available, in consultation with the patient (evidence-based patient choice), to decide upon which option best suits the patient. Evidence-based patient choice is achieved by informing about the risks and benefits of a particular intervention, procedure or surgery and making the patient a partner in the decision making process. One of the strategies used to implement this is the Physician-Patient Partnership Program (PPPP), which is based on the concept of patient-centred care and the idea of the physician and the patient being partners in problem solving.⁵

3. Evidence-based policy making, purchasing, and management for health services

Decision makers and managers who are responsible for health care have to make policy decisions in order to allocate funds, purchase or manage resources. With increasing demand and limited resources these decisions will have to be based on evidence.

REFERENCES

1. Guyatt GH. Evidence-based Medicine. ACP Journal Club 1991;114:A-16.
2. Straus SE, Richardson WS, Glasziou P, Haynes RB. Evidence-Based Medicine. How to practice and teach EBM. 3rd edition. London: Churchill Livingstone, 2005. p. 2-3.
3. Prasad K. Introduction to Evidence based Medicine. In: Fundamentals of Evidence-Based Medicine. New Delhi: PA Meeta Publishers, 2005. p.3.
4. Gray JAM. Evidence-based Healthcare. In: Evidence-based Healthcare First edition. New York: Churchill Livingstone, 1997. p. 3-6.
5. Leopold N, Cooper J, Clancy C. Sustained partnership in primary care. J Fam Pract 1996;42:129-37.