

EVIDENCE-BASED MEDICINE AND CLINICAL PRACTICE IN PAKISTAN

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Optimum patient care is the hallmark of clinical practice. It depends upon the clinician's knowledge, clinical skills and judgement in identifying the patient's problems, diagnosing the basic pathology and making a clinical decision regarding best available care for the problem. Clinical decision making regarding safe and best available care is not an easy job. Clinical decision depends upon the gravity of situation (simple to very complex) and may range from fast intuitive¹ (gut feelings), heuristic² (experience based, task-specific) to more analytical and evidence-based.³ Variations in the approach of individual clinicians towards a similar clinical problem are not unusual as some clinicians prefer personal experiences; some may take guidance of other colleagues and some may gather information through various tools before taking a decision. Due to rapidly changing and immensely proliferating medical research, information seeking from the medical literature to solve patient problems is very difficult. However the prime responsibility of a clinician is to search for the best evidence and integrate it with his clinical expertise to provide best care to his patient, or in other words, to practice evidence-based medicine.

The term evidence-based medicine (EBM) was coined in 1991 by Gordon Guyatt, former director of the internal medicine residency program at Mc-

Master University Hamilton, Canada; who emphasized the "inclusion of new evidence in clinical practice".⁴ Guyatt and his colleagues used EBM for teaching the practice of medicine.⁵ David L. Sackett, a great pioneer of EBM from McMaster University, along with his colleagues defined EBM as "conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients".⁶ This definition was revised and improved further as "a systematic approach to clinical problem solving which allows the integration of the best available research evidence with clinical expertise and patient values".⁷

Process of EBM requires a 5 stepped systematic approach. Initial and basic step is asking a patient-focused and problem-oriented clinical question and 2nd step is searching and retrieval of the best available, current evidence from the appropriate resources. There are many resources of EBM available on web for searching of evidence.⁸⁻¹¹ The level of evidence is an important component of EBM.¹² Levels are graded from level 1-5, with systematic review of randomized controlled trials (RCT) on top, followed by RCT, non-randomized controlled cohort/follow-up study, case-series, case-control, or historically controlled studies; while mechanism-based reasoning is on the bottom level. Level may be graded down on the basis of study qual-

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ity, imprecision, inconsistency between studies, or small effect size.¹³ The 3rd and important step is the critical appraisal of the evidence for validity (quality), reliability (reproducibility & interpretation of results), relevance (applicability) and clinical importance (usefulness in clinical practice) by using various computer-assisted critical appraisal tools.¹⁴ Fourth step is the application of the obtained evidence in the clinical practice while 5th step comprises of evaluation of the outcome and the whole EBM process.

Practicing the EBM is ideal but its application in the daily clinical practice and especially in emergency situation is very difficult. Major problems faced by busy clinicians are lack of expertise in critical appraisal of the evidence and managing newly emerging junk of information in short span of time. Practical problems in EBM practice and future directions have been highlighted by Allen F. Shaughnessy, an eminent EBM specialist; in his commentary on EBM in this issue.¹⁵

Evidence given in medical literature is usually related to the severity and outcome of disease and is labelled as disease-oriented evidence (DOE). DOE may demonstrate the surrogate markers of disease (e.g. fasting blood sugar level in diabetes mellitus) and stage or extent of disease (stage of diabetic ulcer). DOE will tell us about the aetiology, pathophysiology, management and prognosis of the disease but it will not tell us about the functional outcome of disease and quality of life which is more important for the patient. This background led to generate a new concept of patient oriented evidence that matters (POEM) by David Slawson & Allen F. Shaughnessy.¹⁶ POEMs can change the clinical practice

if the results are valid and relevant and clinicians should be able to search, validate and apply common POEMs to their daily practice. BMJ publishes one POEM on weekly basis since 2002.¹⁷

Like any developing country, EBM is not being widely practised in Pakistan. Efforts are being carried out on individual basis as well as on institutional basis to promote EBM in Pakistan.¹⁸ Although local studies have shown that more than 60% of Pakistani physicians have some awareness of EBM,¹⁹ the 71% of medical students and young graduates had no idea of EBM.²⁰ This shows that our undergraduate curriculum needs radical changes and Pakistan Medical & Dental Counsel should incorporate problem based learning and EBM in its undergraduate curriculum. Similarly college of physicians & surgeons Pakistan should also focus on introduction of EBM in its postgraduate training programme.

There are many challenges to EBM practice in Pakistan.²¹ Clinicians are not properly trained and there are no serious efforts for conducting continuous medical education (CME) activities regarding EBM. Access to EBM resources like Cochrane library and other databases is not available on national and institutional basis and individuals cannot afford to pay for getting access to the evidence. Our libraries are not equipped with latest journals of international repute in print form or online access to e-books and e-databases. Only higher education commission (HEC) has established digital library and has given free access to all recognized universities. Another problem in EBM practice is the relevance of the best available evidence to our population. Most of good quality ran-

domized controlled trials are conducted in developed countries and the evidence generated as a result of these trials is not applicable to the patients of developing countries. Pakistani researchers should be encouraged to participate in multinational collaborative trials. It will not only help in addressing the issue of local application of the evidence but will also help the principal investigators of the trial in term of rapid completion of the trial, diversity of the recruited patients and cost effectiveness.²²

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