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Evidence-based healthcare

Evidence-based healthcare practice in Qatar: A need to move forward

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Evidence-based medicine (EBM) is considered the gold standard approach to therapeutic decision-making in modern medicine. It was first described in the 1990s as a way to improve patient outcomes by promoting rational therapeutic decision-making through translation of high quality clinical studies.¹ It was originally defined as the conscientious, explicit, and judicious use of the best available evidence to make decisions regarding the care of individual patients.¹ By translating results of high quality clinical trials into the therapeutic management of patients, better outcomes can be achieved.² Additionally, it allows for standardized therapeutic management of disease and evaluation using audit and feedback.

The practice of EBM goes hand in hand with individual clinical expertise and the use of available evidence. The five steps of evidence-based practice are summarized in Table 1.³ The initial step in the process involves the creation of a specific clinical question, commonly referred to as a PICO (Patient or Problem, Intervention, Comparator, Outcomes) question. Using the elements contained within the PICO question, a systematic search of available evidence would then occur (Step 2). Subsequently, critical appraisal of identified literature occurs with assessment for relevance, internal quality, interpretation of findings and applicability to the patient or problem defined by the original clinical question (Step 3). Finally, the practitioner makes an informed decision based on the evidence identified and appraised (Step 4). While these steps complete the EBM process for patient care, a final stage of evaluation and feedback may occur by auditing individual clinician's practices to benchmark evidence-based practice among peers (Step 5).

There is a traditional belief that high quality evidence refers to only randomized controlled trials, or systematic reviews with meta-analysis. When well conducted, these studies usually represent high internal validity but may lack external validity, or generalizability to real-life patients. Therefore, other types of evidence (epidemiological studies, population based studies, case-series and even case reports) cannot always be ignored. The type of evidence selected for appraisal and therapeutic decision-making is largely based on the patient of interest or the problem at hand. For instance, a public health authority searching for evidence regarding immunization programs for influenza may be better suited to appraise epidemiological and population-based studies, rather than randomized controlled trials of individual patients. Another example would be a question relating to management of a rare adverse drug reaction or diseases, for which only case reports are available. Although this type of evidence is not ideal due to high susceptibility to bias and confounding, it may be the only existing source available. Any chosen evidence must be appraised and assessed for quality and relevance, prior to incorporation into clinical decision-making.

Sources of evidence range from online medical literature databases such as PubMed⁴ to international organizations offering evidence summaries and appraisals of published studies. The Cochrane Collaboration⁵ is a commonly cited source of high quality systematic reviews that are synthesized using objective, standardized methods. Additionally, organizations such as the Britain's Centre for Reviews and Dissemination at the University of York⁶ strive to standardize reporting and dissemination of high quality evidence reviews. Publications from these organizations can greatly

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Table 1. The five steps of evidence-based practice.³

Number	Step	Description
1	Asking Focused Questions (PICO)	Must include the patient or problem, intervention being considered, comparison intervention, and clinical outcomes of interest
2	Finding the Evidence	Systematic search and identification of the best evidence to answer the focused question (utilizing primary, secondary, and tertiary literature sources)
3	Critical Appraisal	Assessing and interpreting evidence through validity, clinical relevance, and applicability
4	Making a Decision	Translating results into practice by applying to a clinical scenario
5	Evaluating Performance	Auditing practice and giving feedback through peers or other evaluation mechanisms

assist clinicians when creating evidence-based practices. However, for topics with little information available or if no review has been completed, a traditional systematic search using medical literature databases is warranted.

The need for EBM dissemination and training has been well documented in Qatar. A recent cross-sectional survey determining the knowledge, attitudes and practices of EBM of 182 primary care physicians found 98.4% welcomed promotion of EBM and believed their colleagues welcomed it too.⁷ A total of 96.2% agreed practicing EBM improves patient care, 84.6% disagreed that EBM was of limited value in primary care but 56.6% agreed EBM places high demand on overloaded physicians. Surprisingly, only 68.7% stated to actively practice EBM. Investigators also sought to identify barriers to practicing EBM. A total of 75.3% indicated lack of free personal time, 62.6% stated limited resources and facilities, and 61.0% identified lack of training workshops and courses interfered with their ability to incorporate EBM into daily practice.⁷ In order to overcome these barriers, strategies can be developed to facilitate incorporation of EBM into routine patient care.

Three other studies were identified assessing EBM and healthcare professionals within the Gulf Cooperation Council (GCC) countries.^{8–10} Two studies from Saudi Arabia assessed attitudes of physicians towards EBM and incorporation into practice.^{8,9} One study assessed attitudes of evidence-base medicine among 559 primary health care physicians. The study found most practitioners welcomed EBM and agreed that it may improve patient care.⁸ However, there was a low level of awareness regarding the skills and procedures for extracting evidence and assessing for quality. Similar to the Qatar study, overload and time constraints were the most common barriers associated with incorporating EBM into routine decision-making. A study employing the same methodology in a different group of primary care physicians (N = 272) in Saudi Arabia found very similar results.⁹ Interestingly, it was documented that the most commonly read journals were those sponsored by pharmaceutical companies, a potential source of bias. Lastly, a study assessing EBM knowledge and attitudes of dentists in Kuwait (N = 120) found 60.9% stated they practiced EBM but only 40.8% had a reasonable understanding of major principles.¹⁰ The author's stated that clinical decisions appeared to be based mostly on clinician's own judgment (73.3%) versus sources such as PubMed (28.3%) or the Cochrane Library (6.7%). These studies reflect both a desire and need for EBM training throughout the GCC.

EBM is the current gold standard for therapeutic decision-making and clinical care for patients worldwide. Time constraints and lack of familiarity with EBM concepts and processes have been demonstrated as barriers to adoption in Qatar and the GCC. Therefore, there is much room to improve EBM practices in this region. In future issues of *Avicenna*, we will strive to facilitate incorporation of EBM into clinical practice in Qatar, through dissemination of high quality evidence-based summaries of topics relevant to local patient populations.

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