CENEX-FALE UFMG – EXAME DE PROFICIÊNCIA EM INGLÊS PARA PROCESSOS SELETIVOS DE PROGRAMAS DE PÓS-GRADUAÇÃO

ÁREA 1 – CIÊNCIAS BIOLÓGICAS, CIÊNCIAS AGRÁRIAS, CIÊNCIAS DA SAÚDE

Principles of evidence based medicine

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Abbreviations: EBM, evidence based medicine; CASP, critical appraisal skills programme

Health care professionals are increasingly required to base clinical decisions on the best available evidence. Evidence based medicine (EBM) is a systematic approach to clinical problem solving which allows the integration of the best available research evidence with clinical expertise and patient values. This paper explains the concept of EBM and introduces the five step EBM model: formulation of answerable clinical questions; searching for evidence; critical appraisal; applicability of evidence; evaluation of performance. […]

WHAT IS EVIDENCE BASED MEDICINE?

The concept of evidence based medicine (EBM), defined as the ''integration of best research evidence with clinical expertise and patient values'', has been gaining popularity in the past decade. The practice of EBM involves a process of lifelong self directed learning in which caring for patients creates the need for important information about clinical and other health care issues. EBM recognises that the research literature is constantly changing. What the evidence points to as the best method of practice today may change next month or next year. The task of staying current, although never easy, is made much simpler by incorporating the tools of EBM such as the ability to track down and critically appraise evidence, and incorporate it into everyday clinical practice.

The work of people in the field of paediatrics and child health centres on the problems of children and their families and carers. Questions about diagnosis, prognosis, and treatment often arise and sometimes the answers to these questions need to be sought. EBM allows the integration of good quality published evidence with clinical expertise and the opinions and values of the patients and their families or carers. Deciding on how to treat patients should not be based solely on the available evidence. Other factors such as personal experience, judgement, skills, and more importantly patient values and preferences must be considered.

The practice of EBM should therefore aim to deliver optimal patient care through the integration of current best evidence and patient preferences, and should also incorporate expertise in performing clinical history and physical examination. […]

WHY EVIDENCE BASED MEDICINE?

The most important reason for practising EBM is to improve quality of care through the identification and promotion of practices that work, and the elimination of those that are ineffective or harmful. EBM promotes critical thinking. It demands that the effectiveness of clinical interventions, the accuracy and precision of diagnostic tests, and the power of prognostic markers should be scrutinised and their usefulness proven. It requires clinicians to be open minded and look for and try new methods that are scientifically proven to be effective and to discard methods shown to be ineffective or harmful. It is important that health care professionals develop key EBM skills including the ability to find, critically appraise, and incorporate sound scientific evidence into their own practice.

THE FIVE STEP EBM MODEL

The practice of EBM involves five essential steps: first, converting information needs into answerable questions; second, finding the best evidence with which to answer the questions; third, critically appraising the evidence for its validity and usefulness; fourth, applying the results of the appraisal into clinical practice; and fifth, evaluating performance.

Step 1: Formulating answerable clinical questions

One of the difficult steps in practising EBM may be the translation of a clinical problem into an answerable question. When we come across a patient with a particular problem, various questions may arise for which we would like answers. These questions are frequently unstructured and complex, and may not be clear in our minds. The practice of EBM should begin with a well formulated clinical question. This means that we should develop the skill to convert our information needs into answerable questions. Good clinical questions should be clear, directly focused on the problem at hand, and answerable by searching the medical literature.

A useful framework for making clinical questions more focused and relevant has been suggested by Sackett et al. They proposed that a good clinical question should have four (or sometimes three) essential components:

- the patient or problem in question;
- the intervention, test, or exposure of interest;
- comparison interventions (if relevant);
- the outcome, or outcomes, of interest. […]

Thus an answerable clinical question should be structured in the **PICO** (**P**atient or **P**roblem, **I**ntervention, **C**omparison, **O**utcome/s) or **PIO** (**P**atient or **P**roblem, **I**ntervention, **O**utcome/s) format. To illustrate the concept of PICO/PIO, imagine that you have a four month old baby admitted to your ward with viral bronchiolitis. The child's symptoms get progressively worse and you wonder whether giving corticosteroids might help the child improve and reduce the length of stay in hospital. You decide to use ''clinical score'' as a measure of improvement. The key components of your clinical question would be:

Patient or problem: 4 month old baby with viral bronchiolitis.
Intervention: corticosteroids.
Comparison: no corticosteroids.
Outcomes: clinical score, length of hospital stay.

A four part clinical question may be formulated as follows:

In a 4 month old baby with viral bronchiolitis, does the administration of corticosteroids compared with not giving corticosteroids improve clinical score and reduce length of hospital stay?

Step 2: Finding the evidence

Once you have formulated your clinical question, the next step is to seek relevant evidence that will help you answer the question. There are several sources of information that may be of help. Traditional sources of information such as textbooks and journals are often too disorganised or out of date. You may resort to asking colleagues or ''experts'' but the quality of information obtained from this source is variable. Secondary sources of reliable summarised evidence which may help provide quick evidence based answers to specific clinical questions include *Archimedes* (http://adc.bmjjournals.com/cgi/collection/archimedes), *Clinical Evidence* (http://www.clinicalevidence.com/ceweb/conditions/index.jsp), and *BestBets* (http://www.bestbets.org/index.html).

Other important sources of evidence include the online electronic bibliographic databases, which allow thousands of articles to be searched in a relatively short period of time in

an increasing number of journals. The ability to search these databases effectively is an important aspect of EBM. Effective searches aim to maximise the potential of retrieving relevant articles within the shortest possible time. Studies have shown that, even in countries where hospitals have facilities for internet access allowing health care personnel access to a number of electronic databases, many people are not familiar with the process of carrying out efficient searches and often conduct searches which result in too few or too many articles. It is therefore important for health care professionals to undergo basic training in search skills, either through their local library services or through the attendance at formal courses. […]

Step 3: Appraising the evidence

After you have obtained relevant articles on a subject, the next step is to appraise the evidence for its validity and clinical usefulness. Although there is a wealth of research articles available, the quality of these is variable. Putting unreliable evidence into practice could lead to harm being caused or limited resources being wasted.

Research evidence may be appraised with regard to three main areas: validity, importance, and applicability to the patient or patients of interest. Critical appraisal provides a structured but simple method for assessing research evidence in all three areas. Developing critical appraisal skills involves learning how to ask a few key questions about the validity of the evidence and its relevance to a particular patient or group of patients. Such skills may be learnt within small tutorials, workshops, interactive lectures, and at the bedside.

Several tools for appraising research articles are available. I like the tools developed by the Critical Appraisal Skills Programme (CASP), Oxford, UK. These include tools for appraising randomised controlled trials, systematic reviews, case–control studies, and cohort studies. The CASP tools are simple, easy to use, and freely available on the internet.

A detailed discussion of the critical appraisal of randomised controlled trials and systematic reviews will be provided in the next two articles of the series.

Step 4: Applying the evidence

When we decide after critical appraisal that a piece of evidence is valid and important, we then have to decide whether that evidence can be applied to our individual patient or population. In deciding this we have to take into account the patient's own personal values and circumstances. The evidence regarding both efficacy and risks should be fully discussed with the patient or parents, or both, in order to allow them to make an informed decision. This approach allows a ''therapeutic alliance'' to be formed with the patient and the parents and is consistent with the fundamental principle of EBM: the integration of good evidence with clinical expertise and patient values. The decision to apply evidence should also take account of costs and the availability of that particular treatment in your hospital or practice. A practical illustration of issues to consider before applying research evidence will be provided in the fourth article of the series.

Step 5. Evaluating performance

As we incorporate EBM into routine clinical practice, we need to evaluate our approach at frequent intervals and to decide whether we need to improve on any of the four steps discussed above. As Strauss and Sackett have suggested, we need to ask whether we are formulating answerable questions, finding good evidence quickly, effectively appraising the evidence, and integrating clinical expertise and patient's values with the evidence in a way that leads to a rational, acceptable management strategy. Formal auditing of performance may be needed to show whether the EBM approach is improving patient care.

Fonte: http://adc.bmj.com/content/90/8/837.full.pdf+html
Acesso: junho, 2014 (texto adaptado).

Questões

1. O que é dito sobre o aprendizado e a constante atualização da prática da medicina baseada em evidência? (sugestão: 7 linhas)

2. Quais são as exigências para a prática da medicina baseada em evidência? (sugestão: 5 linhas)

3. Como o conceito de PICO é exemplificado e como deve ser formulada a pergunta clínica? (sugestão: 7 linhas)

4. Como pode ser avaliada a evidência de pesquisa e o que está envolvido no desenvolvimento das habilidades de avaliação crítica? (sugestão: 5 linhas)

5. Que abordagem possibilita a “aliança terapêutica” e como ela está alinhada à medicina baseada em evidência? (sugestão: 5 linhas)