EVIDENCE BASED MEDICINE, SUPPORT FOR CLINICAL DECISION

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INTRODUCTION
Making decision is a difficult process involving logical judgments on issues for which value systems differ depending on the scope. For the health system, as we are talking about decisions with effect or impact on the state of the patient, in terms of physical, mental and social decision-making process is complex and must comply certain scientific rigor and has to be based on solid and valid evidence.

As regards the clinical decision, it can be mentioned that it results from the junction of three components, derived from the concepts of Opinion Based Medicine, Evidence Based Medicine and patient-physician participative relationship. It requires three basic ingredients for making clinical decision: clinical skills (vary directly with the level of experience); strong and valid scientific evidence; patient preferences.

Challenges underlying the occurrence of MBD
Over the time, the medical practice was based, and is still based on the physician’s medical knowledge and experience. As the two parameters (the knowledge and experience of the physician) are variable, from doctor to doctor, but also in time, to provide quality health care, it has appeared to be necessary a standardization of care by the best medical practices of the time.

Another parameter which emphasized the need to standardize care has been the scientific and technological progress in the medical field and in the related fields of medicine. Thus, with the emergence of news in medicine, the knowledge became insufficient and the clinical experience became the that induced variability in the medical practice.

Demographic transitions and transitions recorded in the models of disease (gradual transition from model mainly based on communicable, infectious diseases, to a model characterized by high frequency of modern diseases, non-communicable diseases occupies the first places) decisively influenced the transition to a new approach for providing health care, represented by the evidence-based medical practice / Evidence Based Medicine (EBM).

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Evidence-based medicine can provide the necessary quality evidence that is needed particularly to the physician for solving a medical case, and act to complement the physician knowledge and experience and to provide informed choice of the best practices of the time respectively.

Regardless of the approach or strategy chosen, the experience of the clinician to use certain tools provided by MBD or a particular approach will decide the choice of best practice, ultimately. The capacity to adapt the best evidence in a given context seems to be essential for putting the evidence into practice.

Key words: evidence based medicine, levels of evidence, clinical decision

Thus, as the transmission of information becomes the pillar that underlines the social progress, the best practices are transferred or adopted into clinical practice. The association of physicians in groups of practice (offices, networks, various units of the health care) resulted also in an attempt to standardize the medical care by the best medical practices.

At the risk of suppressing the physician’s freedom of thought, this new approach has the advantage of combining and utilize, in clinical decision-medical act, both individual clinical expertise and the best medical practices (scientifically proven) at that time.

Opinion Based Medicine
By the mid-nineteenth century, clinical decision belonged, exclusively, to the physician, who, based on his knowledge and clinical experience, diagnosed and treated patients, having complete freedom in thinking and clinical decision making.

From the point of view of the physician - patient relationship, there was a clear discrepancy in the detriment of the patient, who uninformed, called the person holding both the necessary information and tools effectively to solve the case. This model "paternalistic" doctor-patient relationship the doctor / physician team full powers in the diagnosis and treatment of the case, the patient no part in the decision making process by providing information than necessary for diagnosis.

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relationship allows the doctor/the physician team full powers in the diagnosis and treatment of the case, the patient taking no part in the decision making process by providing information than the necessary for diagnosis.

This type of relationship becomes dangerous to the patient's health, when the physician is disarmed, without knowledge and experience, the best alternative in this situation is to call an experienced physician. There was therefore the need to have the right to choose a doctor with high experience, with the best results, which subsequently stated informed the development and implementation of patient rights.

Unlike Evidence Based Medicine (EBM), 'classical' deductive medicine (in English OBM - Opinion-Based Medicine) is based on the knowledge accumulated from studies and personal experience, the traditional "ars medicae" (medical art), based on personal intuition clinician [www.wikipedia.com]. The disadvantage of evidence based strictly on the individual opinion, deductive, is that, over time, is likely to be outdated, obsolete, being surpassed by the scientific progress, demographic trends, trend recorded in the disease patterns and the progress of society, in general.

Completing this approach and the transition to the model applied, based on the results of the research, on the best evidence, proved to be the natural evolution in addressing health care for patients.

Evidence Based Medicine

The concept of evidence-based medicine is not as new as appears from the records of the origin of the middle of nineteenth century, but the period that influenced the implementation of the concept in the field of health care was the ‘90s. This big difference, from the origin to the effective implementation of the term, is due to the difference in ability to transfer information and clinical experience between the two periods. Thus, when the effective implementation of the concept coincides with the EBM information explosion, influenced by the technological advances in communication and information transmission. The extent of the computer technology development and also the internet development influenced the ability to information transfer.

The definition used extensively in the literature was given by Professor Sackett in 1996: "EBM is the scrupulous use, clear and logical of the best currently available medical evidence in medical decision making on individual patient care" [1].

In this context, EBM requires a bottom-up type approach, from the problem identified, which integrates the best external evidence with clinical expertise and patient personal preferences. The major steps of practicing EBM are: formulation of the question so that we ensure that we get the answer needed to fill the gap of information; Finding, with the highest efficiency, the best evidence with which to answer the question; Addressing critical evidence regarding the validity and clinical applicability; Applying the result found in our medical practice; Assessing the outcome.

In the EBM context, the evidence role is to complete the clinical personal experience. Thus, the personal experience is the one that will decide if the evidence found can be applied to the respective patient and if can be applied, respectively if it can be considered in making decision.

The importance of EBM application

The benefits of EBM include:
- Knowledge and full understanding of the physiopathological process of disease,
- Syntetizing of a large volume of new medical information (books, magazines, conferences, expert meetings, etc.)
- Updating of knowledge
- Support/Supplement the traditional educational programs, such as continuing medical education
- Other clinical approach of clinical learning
- Developing tools (guides / models of practice) that may underline decisions.

Medicine has become very institutionalized, bureaucratic and focused on medical and social problems. On the other hand, the private insurance, and soon the public ones will include evidence-based criteria for reimbursement / practice guidelines, as indeed were included and applied already by the health insurance in Germany [2].

There is a more obvious trend towards mandatory practice-based practice guidelines and reimbursement based practice guidelines [3].

Not the least, it should be mentioned that, the application of EBM loads the clinical decision making process, involving additional consumption of resources, but more efficient, overall, the decision making process, by identifying and applying the most effective medical interventions that have the effect/benefit to maximize the quality and quantity of patients' life.

Levels of evidence & grades of recommendation

Not every result of a survey can be used in medical practice. Worldwide, there are numerous studies on the same themes and current problem is to select the best one in order to put into practice interventions with the best results [4]. There are several systems for ranking evidence that are based somewhat on the same principle of ranking by scientific value of the results: pyramid of evidence / evidence waterfall / hierarchy of evidence / evidence levels.

Although the process involves the same five steps (question formulation, finding the best evidence, critical appraisal of evidence, implementation, result evaluation), how to choose the best practice may differ; there are currently several approaches, including ones of the most recognized and standardized for evidence levels ranking, and grades of recommendations such as: Joanna Briggs Institute (JBI) and Cochrane approaches.
The criterion for evidence levels of studies are elaborated by diverse scientific forums, but the order of credibility is, in a descendent order, in general: systematic reviews or meta-analyses, randomized controlled trials with definitive results, ongoing randomized clinical trials results, cohort studies, case-control studies, sectional studies, clinical cases [5].

Cochrane levels of evidence [6] The main principle that formed the Cochrane hierarchy is that evidence is not created equal or does not keep the same pattern. Therefore, systematic reviews always consider the level of evidence in each research study before summarizing the information in a review.

The criterion on which Cochrane Collaboration rank evidence are:

- **Strength of the evidence.**
  Cât de sigur poți fi că evidența declarată este o măsură reală a beneficiilor și consecințelor negative ale tratamentului? **Quality** of the evidence is determined by the methods used to minimise bias within a study design. Cochrane reviews are systematic assessments of all randomised controlled trials relevant for formulation of question (in term of PICO = population, intervention, comparator, outcomes), and are ranked as the highest level of evidence. **Statistical precision** is the degree of certainty about the existence of a true measured effect. The second level of evidence is provided by at least one randomised controlled trial on the effectiveness of an intervention, then a pseudo-randomised trial e.g. a trial that assigns participants to a treatment group by alternating between groups as they present or by date of admission.

- **Relevance of the evidence.**
  How appropriate the outcome measure is for the healthcare problem, and its usefulness in measuring the benefits (or harms) of the treatment?

- **Size of effect.**
  How high is the likelihood that the effect of the treatment will achieve clinically relevant benefits (or harms)? Lower levels of evidence are provided by: non-randomised studies of groups of people where a control group has run concurrently with the group receiving the intervention being assessed; non-randomised studies of groups of people where intervention effects are compared with previous or historical information; single case studies.

- **Confidence intervals (CI).**
  Even studies that are perfectly designed and carried out may show variable results because of the play of chance. **Confidence intervals** just tell us that we can trust 95% that the true value lies somewhere in between these limits. Therefore, you should not assume that the "true" result is the center of any confidence limits.

**JBI Grades of Recommendation** [7] The grades of recommendation are useful to healthcare professionals when they try to put evidence in practice. Joana Briggs Institute and the collaborators of JBI network established “The JBI Grades of Recommendation” that are included in JBI documents and tools such as: Evidence Summaries, Systematic Reviews and Best Practice Information Sheets. JBI uses the follow grades of recommendation, for a certain healthcare:

**Grade A.** A ‘strong’ recommendation for a certain health management strategy where (1) desirable effects outweigh undesirable effects of the strategy; (2) where there is evidence of adequate quality supporting its use; (3) there is a benefit or no impact on resource use, and (4) values, preferences and the patient experience have been taken into account.

**Grade B.** A ‘weak’ recommendation for a certain health management strategy where (1) desirable effects appear to outweigh undesirable effects of the strategy, although this is not as clear; (2) where there is evidence supporting its use, although this may not be of high quality; (3) there is a benefit, no impact or minimal impact on resource use, and (4) values, preferences and the patient experience may or may not have been taken into account.

The FAME (Feasibility, Appropriateness, Meaningfulness and Effectiveness) scale may help inform the wording and strength of a recommendation.

**Conclusions.** Evidence-based medicine can provide the necessary quality evidence that is needed particularly to the physician for solving a medical case, and act to complement the physician knowledge and experience and to provide informed choice of the best practices of the time respectively. Regardless of the approach or strategy chosen, the experience of the clinician to use certain tools provided by MBD or a particular approach will decide the choice of best practice, ultimately. The capacity to adapt the best evidence in a given context seems to be essential for putting the evidence into practice.

**References**