EDITORIAL

Evidence Based Reproductive Medicine

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RATIONALE

Clinicians are confronted with steadily increasing medical information of a variable quality. As clinicians we hope that papers in professional journals will help us to answer an array of questions regarding the efficiency of a specific treatment, the accuracy and the interpretation of diagnostic tests, side effects, judgment of prognosis and cost-benefit aspects of new treatments. However, it is not a simple task to judge validity and relevance of published data so that we can offer the individual case optimal care. Even if we spend several hours a week training to keep up with the new information, we may find obvious difficulties in transforming information into clinical practice. It goes without saying that in the majority of cases, our clinical decisions have been based on our basic clinical training or unsystematic observations and experience we have had from individual patients. Such experience together with the basic knowledge such as pathophysiological mechanisms has since long been considered to be a sufficient basis for clinical guidelines. Research in the last two decades made it clear that this is inadequate basis for critical appraisal and judgement. A review of existing practice also showed a reverse relationship between our knowledge of modern principles of treatment and the time that has elapsed from our examination in the medical school. This fact has been substantiated in a study on hypertension in which the decision as when to start treatment was related rather to the number of years after the physicians examination than to the severity of the disease[1].

A new concept called evidence based medicine (EBM) has received an increasing attention since 1979 because it relies less on intuition and clinical experience received in an unsystematic fashion but put more emphasis on the fact that clinical treatment should be based on clinical experience and results from clinical studies. The concept consists of a formal and systematic evaluation of clinical studies.

The evidence based medicine has been defined by Sackett and co-workers[2] as "the conscientious, explicit and judicious use of the best evidence that is currently available to make decisions about the care of the individual patient. When EBM is practiced, one should perform a systematic search of relevant papers and subject them to a test of validity. Clinical data from the best studies can then be summarized in such a way that a specific problem is solved. The critical scrutiny of reports from clinical studies makes certain demands which have not been part of medical training but the procedure can easily be learnt through the process of critical reasoning[3].

Historical Background of EBM

In 1979 Archi Cochrane, Professor of Epidemiology from Oxford University[4] reminded the medical community of its duty to obtain reliable evidence about the efficacy of health care that it was offering. He called for a critical summary of all relevant randomized controlled trials in each specialty or subspecialty to be adopted periodically. Following the successful pilot study in the field of pregnancy and childbirth the Cochrane collaboration was founded in 1993 and is now a rapidly growing network of physicians, scientists, methodologists and consumers committed to preparing, maintaining and disseminating systematic reviews of the effects of health care in every field. The Cochrane collaboration group grew into an international network that is committed to the production and dissemination of systematic reviews in all aspects of health care. This collaboration which had its genesis in Obstetrics and Gynaecology was created against the background of a widespread need in the eighties to put family planning on a robust scientific foundation. As the actual process and procedures of applying EBM can be easily learnt, the Royal College of Obstetricians & Gynaecologists established many courses for training doctors in this field and gradually this skill became popular to all medical specialty and not exclusive to epidemiologists only. The European Society of Embryology and Infertility, ESHRI, with support from drug companies has also embarked on running courses in EBM under the direction of Professor Salim Daya who is a gynaecologist and epidemiologist from the well known McMaster University in Hamilton, Ontario, Canada. In 1996-1997 a well appreciated course was held in Portugal and followed by another in Mastricht in Holland. In January 1998 an important training course was held in Gentofte in Denmark by the same group. Among those who delivered speeches were Prof. Hans Evers from Mastricht, a number of teachers from Scandinavian countries where EBM is applied on a wide scale in their health care services. In November 1998 the Middle East Fertility Society, MEFS has invited Professor Salim Daya to run a pre- conference course in EBM in Amman, Jordan[4]. The Faculty of Medicine of the Arabian Gulf University will hold a similar workshops on EBM from 19 -22 April 1999.

In the USA the concept was well received by the American

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College of Obstetrics and Gynaecology. A leading article appeared in the Journal of Obstetrics & Gynaecology by FD Frigoletto, the current President of the American College in January 1997 who gave a valuable opinion under the heading of "CPR: Can We Be Resuscitated". In this article he pointed that EBM is not only crucial to the development of medicine, but can also to give us answers for the escalation of medical costs in the US[5].

Developing EBM guidelines in Reproductive Medicine

It is important that the new knowledge in Obstetrics care is implemented into daily clinical practice to be of benefit to the patients. This can be facilitated by formulating EBM clinical policies and developing guidelines for specific clinical problems and procedures. Developing guidelines for this purpose should follow the under mentioned steps:

1. Identification of the relevant clinical problems and formulation of questions that are answerable.
2. Collection and critical evaluation of the available evidence
3. Estimation of the expected benefits, clinical applicability, possible harm and costs of various options.
4. Formulation and distribution of recommendations
5. Application of the guidelines in clinical practice
6. Evaluation of clinical results and performance of the new policy

The EBM guidelines should be regularly revised and updated, and an ongoing medical audit may facilitate the identification of non-effective clinical practices and specify the need for fresh review of recommendations. The people in charge of this process must also be aware of the advantages and disadvantages of developing guidelines on a local and national level as well as the precise role of the health authorities and professional bodies in the process of developing an EBM health care policy.

In the field of Obstetrics & Gynaecology there are so many examples of the effect of EBM on our practice. Let me list the following examples:

1. We all remember the rule "once a cesarean section always a section" We know now as a result of long awaited data that this is not true.
2. From its popularization in 1921 until recently the available evidence refuted any claim of prophylactic benefit for the routine use of episiotomy which was an accepted standard. In fact paradoxically it now appears that prophylactic episiotomy may increase maternal morbidity.
3. In 1960s the electronic fetal heart monitoring was introduced and quickly became the standard screening test for intrapartum asphyxia, in the belief that it would significantly reduce the cerebral palsy, a goal which so far never achieved.

There are after conditions which need to be reviewed such as:

1. Because of the unavailable data or poor data collection methodology, we still remain confused about the role of routine ultrasound screening for all pregnant women
2. Experts now debate the utility of universal screening for gestational diabetics without resolution
3. When confronted with the cesarean section rates of obstetrician in secondary and tertiary care hospitals and compare it to non-obstetrician in rural hospital we are at a great disadvantage because we do not have experience to compare matched patients.

The future for EBM holds many opportunities and challenges. Let me just adduce an example of a futuristic advantage of the EBM in the practice of Obstetrics:

> The integration of EBM in a national computerized antenatal records with reminders, alerts and practiced guidelines could reduce the number of errors, costs and morbidity for the patient. In such a situation decision analysis tools, algorithms, risk assessment and information on drug interactions will be readily available. A lot of saving on storing records, moving them back and forward between health center and hospital or from one hospital to another not to mention the availability of information at admission or in A & E where the patient and doctor needs it most.

CONCLUSION

EBM is now the talk of medical community from the United States and Canada to Western Europe and Australia. In every specialty and subspecialty now, there are international, regional, national and local networks of research designed to determine the best and most effective ways of practicing medicine.

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