Barriers Against EBM in General Hospitals, Kingdom of Saudi Arabia

Khalid S. Al-Gelban, CABFM, JBFM,1 Yahia M. Al-Khaldi, MD, CABFM,2 Abdullah M. Al-Wadei, SSCFM, CABFM,2 Ossama A. Mostafa, Dr.PH1
Dept. of Family and Community Medicine, College of Medicine,1 King Khalid University2 General Directorate of Health Affairs, Aseer Region, Saudi Arabia

Objective: To explore the attitudes of doctors in the general hospitals and their application of evidence-based medicine (EBM) and to identify the barriers that hinder its use.

Subjects and Methods: This study included 346 doctors in the general hospitals of Aseer. A questionnaire was designed to assess their awareness as well as the barriers that hinder their practice of EBM. A visual analogue scale was used to assess their attitude.

Results: The attitudes of doctors toward aspects of EBM were generally positive. However, their use of EBM sources and application were generally poor. The main reasons for retrieving evidence were to keep them up-to-date (72.8%) and to help make clinical decisions (70.2%). The least mentioned reason for evidence retrieval was research (41.9%). Review of textbooks was the main method of evidence retrieval (71.1%), while a database search was the method least used (22.8%). The main barriers to the practice of EBM practice were "lack of facilities" followed by "lack of time", while the barrier least mentioned was the "lack of interest".

Conclusions: Although doctors have positive attitudes toward EBM, their knowledge and application of EBM need much improvement. The main barriers to their application of EBM are the lack of facilities and the lack of time.

Correspondence to:
Dr. Khalid S. Al-Gelban, Department of Family and Community Medicine, College of Medicine, King Khalid University, P.O. Box 641, Abha, Saudi Arabia.
E-mail: khalidgelban@hotmail.com
Recommendations: The necessary infrastructure for the application of EBM should be made available for all medical staff. There is a need for special courses and hands-on workshops in general hospitals to address the necessary knowledge and skills of EBM are essential.

Keywords: Evidence based medicine, Barriers, Aseer.

INTRODUCTION
EBM has been described as "the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients." Its practice means: “integrating individual clinical expertise with the best available external clinical evidence from systematic research”. In health care, the practice of evidence based medicine (EBM) has been associated with several benefits. It promotes the identification of the best methods of health care and helps both patients and health professionals to make better choices.1,2

This definition addresses any detractors who might claim that EBM diminishes the importance of physician judgment (since it is judicious) or that it does not allow for individualization (since it is about the care of individual patients).3 Hence, it is logical for physicians to base their clinical and therapeutic decisions on the best available scientific evidence. EBM has had a significant worldwide impact on medical education.2,3 Professional organizations have called for increased training in evidence-based practice for all health care professions, and at all levels of medical education.4 It has become an essential part of many medical schools and postgraduate curricula.5

Results of two surveys from Australia6 and United Kingdom7 have shown a positive attitude toward EBM among general practitioners. In the Riyadh Region, Kingdom of Saudi Arabia (KSA), Al-Ansary and Khoja8 reported that primary health care physicians have a welcoming attitude to EBM. However, Upton and Upton9 noted that there a significant difference between GPs and their hospital counterparts in their attitude toward EBM.

However, little is known about the attitudes of doctors serving in the Saudi Ministry of Health (MOH) general hospitals toward EBM and the existing barriers to moving their practice from opinion-based to evidence-based. Hence, this study aims to explore the general hospital doctors’ attitudes toward EBM and its application and to identify the barriers that may hinder its implementation.

SUBJECTS AND METHODS
This research follows a cross-sectional study design. It was conducted in January and February of 2007 in Aseer Region, which is in the southwestern part of the Kingdom of Saudi Arabia (KSA). Its area is 185,000 km² and has a population of two million served by 14 MOH general hospitals (1800 beds).

For data collection, a self-administered, structured questionnaire was designed, based on that of McColl, et al.7 It consisted of 56 close-ended questions (covering socio-demographic characteristics, attitude toward EBM and barriers against EBM practice) to assess the awareness of doctors, as well as a visual analogue scale to assess their attitude.

After fulfilling all the administrative requirements of the Aseer Directorate of Health Affairs and the directors of all general hospitals (N=14), copies of the questionnaire were distributed to all doctors at their workplaces (N=455). They were briefed about the objectives of the current study. They were clearly assured of anonymity and full confidentiality of their responses.

All doctors in the 14 MOH general hospitals were targeted. Each doctor was personally met and asked to read the provided questionnaire thoroughly and respond carefully to all questions. Completed questionnaires were delivered to the office of the hospital director at their earliest convenience. By the end of data collection period, a total of 346 correctly and completely filled questionnaires were obtained (i.e., response rate = 76%).

Data analysis was carried out using the Statistical Package for Social Sciences (SPSS ver. 14.0). The appropriate descriptive statistics were applied (i.e., frequency, percentage, mean and standard deviation).
RESULTS
Most participants (86.1%) were males, within the age range of 30 to 49 years. Most doctors were non-Saudis (87%) and 16.2% of the doctors had high qualifications (Doctorate, PhD, Board). Almost three-fourths of the doctors had had 10 or more years of experience in medical practice since graduation (Table 1).

Table 1: Sociodemographic characteristics of study sample

| Sociodemographic characteristics | No. (%) |
|---------------------------------|---------|
| Sex                             |         |
| Male                            | 298 (86.1) |
| Female                          | 48 (13.9)  |
| Age groups                      |         |
| <30                             | 34 (9.8)  |
| 30-39                           | 122 (35.3) |
| 40-49                           | 141 (40.8) |
| 50+                             | 49 (14.2)  |
| Nationality                     |         |
| Saudi                           | 45 (13.0)  |
| Non-Saudi                       | 301 (87.0) |
| Qualifications                  |         |
| MBBS                            | 101 (29.2) |
| Diploma/Master                  | 189 (54.6) |
| Doctoral/PhD/Board              | 56 (16.2)  |
| Years since graduation          |         |
| <10                             | 94 (27.2)  |
| 10-19                           | 145 (41.9) |
| 20+                             | 107 (30.9) |

Attitudes of doctors in general hospitals of Aseer toward aspects of EBM are generally positive, the best of which concerned the importance of training on EBM and its essential position in continuing medical education (Table 2).

Most participants were unaware of the sources of EBM. Hence, the use of sources and EBM application was generally poor among doctors in the general hospitals of Aseer (Table 3).

Table 2: Attitude of participants toward EBM (maximum score = 10)

| Attitude of participants                                  | Mean±SD |
|-----------------------------------------------------------|---------|
| Adoption of EBM adds more demands on doctors              | 5.3±3.0 |
| Attitude of colleagues toward EBM is positive             | 6.4±2.2 |
| Research findings are useful in daily medical practice    | 7.7±2.2 |
| Training on EBM is important for medical practice         | 8.5±2.1 |
| Training on EBM is an essential component in continuing medical education | 8.5±2.0 |

Participating doctors stated that the main reasons for evidence retrieval were to enable them to keep up-to-date (72.8%) and to make clinical decision (70.2%). Research was the least mentioned reason for evidence retrieval (41.9%). Reviewing textbooks was the main method of retrieving evidence (71.1%), while database search was a method used the least (22.8%), as shown in Table 4.

The main barriers to the practice of EBM were the lack of facilities followed by the lack of time, while the smallest obstacle was the lack of interest (Table 5 and Figure 1).
Table 5: Barriers against practice of EBM

| Barriers         | Major No. (%) | Considerable No. (%) | Minor or not at all No. (%) |
|------------------|---------------|----------------------|-----------------------------|
| Lack of facilities | 168 (48.6)    | 111 (32.1)           | 67 (19.4)                   |
| Lack of time     | 143 (41.3)    | 108 (31.2)           | 95 (27.5)                   |
| Lack of skills   | 52 (15.0)     | 98 (28.3)            | 196 (56.6)                  |
| Lack of interest | 25 (7.2)      | 45 (13.0)            | 276 (79.8)                  |

Figure 1: Barriers against practice of EBM

DISCUSSION

Participants in the present study were mostly males. This male predominance in medical practice was similarly reported by Al-Ansary and Khoja, who indicated that more than two thirds of the physicians in Riyadh were males. This observation clearly reflects the highly conservative and religious pattern of the Saudi community, especially in its southern part, where most recruited and practising doctors in general hospitals are males. This male predominance can be further understood by the fact that the regulations on Saudi Emigration make the recruitment of a male doctor much easier than a female, since any recruited female doctor must be accompanied by a male relative “i.e., a mahrem” (e.g., her husband, father, brother, etc.).

This study revealed that doctors serving in all general hospitals of Aseer Region had a positive attitude toward EBM. However, the lack of facilities, lack of time and lack of skills constitute the main barriers against its application. Consequently, the use of sources and EBM application were generally poor. Most participants were not aware of the main sources of evidence. Hence, they were satisfied with the use of traditional sources for evidence and information. The most common reasons for evidence retrieval were to help them keep abreast of advances in their professions and to facilitate their clinical decisions. However, the conduct of research was the least frequently stated reason, indicating that research was a low priority for doctors in general hospitals. For information retrieval, a search in medical databases (e.g., Medline) was the least used method. Hard copy textbooks, the method most commonly used, could already be out-of-date by the time they are published, and usually reflected the opinions of their authors and editors.

In reporting the poor application of evidence based medicine despite highly positive knowledge and attitude, McCluskey et al noted that the provision of education on evidence-based practice improved knowledge but did not change behavior.

In Riyadh, KSA, Al-Ansary and Khoja reported that primary health physicians mainly welcomed EBM and agreed that its practice improved patient care. Their level of awareness about extracting journals, review publications and databases was low, and many did not use them even when they had this knowledge. In Al-Taif, KSA, Al-Baghlie and Al-Almaie reported that 90.8% of the participating physicians had a positive attitude towards EBM. In the Western Region of KSA, Al-Omari and Al-Asmary reported that the majority of the participating consultants had a positive attitude toward EBM; 97% welcomed EBM and 48% of the participants reported regular use of EBM in their daily clinical practice.

In Canada, McAlister et al reported that only 11% of the participants reported they always used EBM in their clinical practice. There was high usage of traditional information sources: clinical experience (93%), review articles (73%), the opinion of colleagues (61%), and textbooks (45%). Only a minority used EBM-related information sources such as primary research studies (45%), clinical practice guidelines (27%), or Cochrane Collaboration Reviews (5%) on a regular basis.
The present study showed that the main barriers to EBM application in their daily clinical decision-making were lack of facilities and lack of time. The lack of interest was the barrier the least mentioned. It has been indicated that medical professionals who do not lack the interest in EBM have a more positive attitude toward it.14

In the Dammam area, KSA, Al-Almaie and Al-Baghli15 reported that the main barriers to practising EBM stated by physicians were the lack of training in EBM (72.9%), lack of facilities (34.4%), and the constraints of time (29.2%). The least mentioned barriers were the lack of relevant evidence and the negative impact on medical skills (10.4% each). Al-Baghlie and Al-Almaie11 found that barriers against EBM practice among physicians in Al-Taif were the lack of time (31%) and unavailability of resources (e.g., internet access) at locality (24%). Participants reported a low level of awareness about how to extract journals, review publications and search databases related to EBM.

In the Southeastern USA, Yew and Reid16 stated that time constraints and clinical production pressure were the primary barriers to the practice of EBM.

CONCLUSIONS
In spite of the fact that doctors in general hospitals of Aseer have positive attitudes toward EBM, their knowledge and application of EBM need much improvement. The main barriers to their application of EBM are the lack of time and the lack of facilities in the hospitals they work in.

RECOMMENDATIONS
The necessary infrastructure for the application of EBM (e.g., desktop computers, internet facilities, subscription to medical databases, etc.) should be made available to all medical staff. Special courses and hands-on workshops in general hospitals to help physicians acquire the necessary knowledge and skills of EBM are essential.

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