

Evidence-Based Medical Educational Needs Assessment of Clinical Faculty Members of Hospitals of Shahid Beheshti University of Medical Sciences, Tehran, 2011

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Abstract

Background and purpose: Today, according to busy doctors, one of the ways to keep their medical information up to date is the use of evidence-based medicine (EBM). The purpose of this study was to determine the educational needs of EBM in clinical faculty members working in Shahid Beheshti University Hospitals in Tehran and the prioritization of these needs.

Methods: The study was descriptive, cross-sectional for 320 doctors working in four hospitals of Shahid Beheshti University in Tehran in 1390. A researcher-made questionnaire was used to collect data that its reliability was obtained 0.95 by calculating the Cronbach's alpha coefficient. The data were analyzed using SPSS software.

Results: From 140 distributed questionnaires, 133 questionnaires (93.3 %) were completed. The results showed that 65.4 % of the subjects were male and 34.6 % were female. The academic status of 55.6% of them was assistant professor and their average age was 47 years and their work experience average was 12.8 years. 41.6% of the target population was familiar with electronic information resources and 19.4 % were familiar with EBM concepts and terminology and 90.6% had a positive attitude towards EBM.

Conclusions: The results showed that although the subjects had positive attitude towards EBM, but their knowledge and use of EBM is low, also the greatest barriers in effective implementation is the lack of evidence-based approach infrastructure and lack of time, therefore, it is recommended to develop a training package to enhance awareness and encourage the use of EBM by clinical faculty members.

Keywords: EDUCATION, CLINICAL FACULTY MEMBERS, NEEDS ASSESSMENT, PRIORITIZATION AND EVIDENCE-BASED MEDICINE

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Introduction

Evidence-based medicine (EBM) is using the best evidence as a reasonable, clear and explicit way for decision making about the care of each individual patients (1).

Today, busy doctors believe that, one of the ways to keep their medical information up to date is the use of EBM. Based on EBM principles, doctors merge the best available

evidence with clinical experience and patients' preferences and instead of a daily review over a large number of magazines to find interesting topics, direct their studies to the issues related to the specific problems of their patients. Without the use of evidence-based medicine, the decision will be made based on old information that often conflict with the interests of the patient and will confuse him and will also increase medical error (2).

Reducing medical errors and increasing patients' health is just possible with sufficient

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and up-to-date knowledge and critical thinking skills (3).

EBM tries pushing clinical services to effective and cost-effective services with minimal complications and errors (4).

According to the statistics published in USA in 2000, the annual average of 16,000 people die of HIV, 42,000 people die of breast cancer, 43,000 people die of accidents and 44,000 to 98,000 people die because of medical error (5).

Since most clinical faculty members do not have sufficient knowledge about the EBM concepts and with a positive attitude towards EBM and access to the Internet, they do not use EBM practically for clinical decision making and also are unaware of EBM specific sites (6-8).

Given the role and importance of evidence-based medicine and its remarkable impacts on the clinical effectiveness of health care, this study intends to determine and prioritize educational needs of clinical faculty members in hospitals of Shahid Beheshti University of Medical Sciences in the field of EBM.

Methods

This study was cross-sectional and conducted through a survey using a questionnaire. The participants were clinical faculty members in hospitals of Shahid Beheshti University of Medical Sciences in Tehran who worked in 2011. In order to do this study, among teaching hospitals covered by Shahid Beheshti University of Medical Sciences, hospitals that do have four main specialties (Internal Medicine-Surgery-Pediatrics-Gynecology) were selected. Four hospitals of Shohada-e-Tajrish, Taleghani, Loghman and Emam Hossein were eligible for this feature.

In these four hospitals 320 clinical faculty members worked. Given the fact that the sample size was 130, therefore questionnaires were copied to this number and distributed totally randomly based on proportional ratio (portion) of clinical faculty members of all specialized fields.

A researcher-made questionnaire was used. To investigate the internal consistency of this questionnaire a/pilot study was conducted which resulted in a Cronbach's alpha coefficient of 0.95.

The scale used in the questionnaire was quantitative and the level of knowledge, attitude and performance of clinical faculty members on EBM were questioned.

Out of 64 questions of the questionnaire, 13 questions were about personal information, how to access to the computer and the level of proficiency, and 8 questions were on the recognition of the information resources that was evaluated at three levels. The next 13 questions were on knowledge of EBM concepts and terminology. The next 10 questions assessed faculties' attitudes of EBM. The next 4 questions were about the level of knowledge and performance based on EBM that people should mark the answers. The next 4 questions measured evidence-based attitude and performance of people that were designed as multiple choice questions. The last 5 questions were about assessing the skill of reviewing the article of people that were designed as yes/no questions. Finally, 6 questions were optionally about considering how to hold training courses.

In order to assess formal and content validity, the questionnaire was sent to a number of professors and expert faculty members in this field that after examination was confirmed by them.

Questionnaires were distributed in person and followed by telephone and in person for three months all data were analyzed by using SPSS software version 18. Mean and standard deviation were used to describe data.

Results

From 140 distributed questionnaires, 133 questionnaires (93.3%) were completed.

The mean age of participants in the study was 47 years (± 9.82) with an age range of 28 to 74 years. The mean work experience of participants in the study was 12.8 years (± 7.67) ranging from 2 to 32 years (Table 1).

Table 1. Demographic characteristics of the study participants

Gender	Number (%)	
	87 (65.4)	Female
Academic rank	1 (0.8)	Instructor
	70 (55.6)	Assistant professor
	42 (33.3)	Associate professor
	13 (10.3)	Professor
Age groups	1 (0.8)	y>30
	22 (18.5)	y 30-39
	67 (56.3)	y 40-49
	29 (24.4)	y<50
Work experience	23 (19.0)	>5
	28 (23.1)	5-10
	22 (18.2)	11-15
	29 (24.0)	16-20
	9 (7.4)	21-25
	10 (8.3)	+26

Target population had most familiarity with Medline (93%). Only 5.31% of the participants knew EBM stages correctly; 2.65% of the population could identify evidence-based resources; 51% knew the importance of critical evaluation; and 90.6% had a positive attitude towards EBM (Table 2, 3).

Discussion

Our findings indicated that 19.4% of clinical faculty members in hospitals of Shahid Beheshti University in Tehran are familiar with the basic concepts of EBM and the level of this familiarity is not to the extent that they can explain these concepts and terminology for others. It seems one of the reasons is that EBM is a relatively new concept and they were not trained formally and also continuous medical education programs on EBM were not offered. On the other hand, there was no obligation for clinical faculty members to learn EBM.

Table 2. Respondents' knowledge of and access to the computer and Internet

Title	Number %	
Knowledge of working with computer	Less and somewhat	82 (61.6)
	High and very high	51 (38.4)
	Only access to the Internet	
Through university	81 (60.9)	
	At home	47 (35.3)
	PC in the office or clinic	5 (3.8)
taking training courses on the Internet and search	PC in the office or clinic	69 (51.9)
Time of search for evidence on the Internet	More than 10 hours per week	35 (27.8)

Table 3. The Respondents' knowledge and attitude about EBM

Title	Number
Knowledge of EBM Information Resources	52 (41.6)
Knowledge of EBM concepts and terminology	25 (19.4)
The attitude towards EBM	115 (90.6)

The findings show that the majority of subjects (61.6%) had no basic skills to use computer for information access and adequate skill in basic search of evidence. The research findings show that a limited number of clinical faculty members (41.6%) are familiar with EBM information resources although a smaller percentage of them use these resources in clinical decision making.

Lack of knowledge about the concepts of EBM has been reported similarly among doctors in Denmark and UK (9).

The results of the present study are consistent with the results of similar studies that were conducted in other countries. Less than 50% of family physicians in Ontario, Canada had acceptable knowledge about EBM concepts (10).

In a study conducted at Kansas State University, 34% of all faculty members' EBM questionnaires responses were correct (11).

In another study that was conducted in the UK on EBM knowledge, it also showed that most of them had little understanding of the concepts and terminology used in EBM (8).

Another study was conducted at West Midlands of the UK using a questionnaire on various medical specialties that its results are consistent with that of this study. The results indicate that there is a lack of knowledge in the field of EBM (12).

Another study was conducted using questionnaire in Tehran University hospitals about EBM knowledge and attitude of doctors. Its results are consistent with that of this study. The results showed that 80% of trainee doctors in hospitals of Tehran University have no adequate knowledge about EBM basic concepts (6).

Another study was conducted in Sydney, Australia using a valid questionnaire that the results show that a lot of people of target population are not familiar with these concepts and those who are somewhat familiar do not have adequate proficiency to explain to someone else. Out of those proficient people also few of them are able to use them in action (13).

In another study conducted in Nigeria among specialist doctors also the results are consistent with the results of this study. The findings showed that Nigeria specialist doctors also did not have adequate awareness of EBM terminology (14).

The next study that was conducted recently at Yasouj University of Medical Sciences also confirms the findings of this research. The

study results indicated a low level of awareness and use of EBM by doctors and faculty members of Yasouj University of Medical Sciences (15).

The next study that was conducted at Tabriz University also confirms the findings of this study. The results showed that faculty members have little knowledge of EBM, are unaware of EBM specialized sites and methods of assessing the accuracy and reliability of information. Clinical faculty members and doctors need comprehensive and explicit training in the field of search, retrieve, evaluate, and use of EBM (16).

The most important point in reviewing the studies in Iran that were carried out in type 1 universities such as Tehran, Tabriz, and Shiraz during 2003, 2006 and 2009 was that despite many efforts and activities in promoting EBM practice in the past years, and the results were not even close to the expectations, this shows a need for a change in this field.

The findings collected in attitude section show most people believed that implementation of EBM has better clinical outcomes and EBM helps to decide, reduce the costs of health system, and training in the field of EBM is essential and necessary for all medical students.

Despite the positive attitude of the majority of the subjects towards EBM (90.6%), its application in practice is very limited and partial.

These findings are perfectly matched with the results of a similar research that was done in England. In this research, despite considerable variation in doctors' attitudes towards the promotion of EBM, most of them were positive and agreed that the use of EBM can improve the patient care. (8)

Another study in hospitals of Tehran showed similar results with 41% of trainee doctors and 66% of graduated doctors having a positive attitude towards EBM (6).

Another study in Scotland in various healthcare professionals in primary care indicated that all professional groups had a positive attitude towards EBM (17).

Another study at the University of Shiraz confirmed the findings of this research. The results showed that specialist assistants despite positive attitude towards EBM and Internet access for clinical decision making do not use EBM practically and also are unaware of specific EBM resources (7).

Although approximately most hospitals of Shahid Beheshti University of Medical Sciences in Tehran are equipped with computer facilities with internet access in most parts of hospital's library and doctors' room and all computers have access to the main electronic databases and a wide range of full-text articles and evidence-based resources, but clinical faculty members do not use the resources properly

Another study was conducted by questionnaire in Tehran University hospitals, that its results are consistent with that of this study. Most frequently used information resources by trainee doctors and graduated doctors were consultation with experienced staff and reference books and in the least frequently used resources were Cochrane databases. In addition, many of them still insist to use traditional resources of knowledge and not evidence-based resources (6).

The findings showed that the greatest obstacle for EBM implementation in our country is the lack of infrastructure of evidence-based approach and lack of time that seems it's because of attitude distinction between researchers, clinicians and executive managers. Maybe the problems of poor access to the Internet (such as speed and bandwidth) are other reasons. The reasons for the lack of time of clinical faculty members can be high volume of clients referring to university teaching hospitals because of being scientific and also its low cost compared to other public and private centers and hospitals. These findings are consistent with the results of fairly similar research that was conducted in England. They stated that the biggest obstacle for EBM implementation was lack of time. Besides, the lack of proper access to

databases and World Wide Web is of other obstacles mentioned in this study (8).

These findings are consistent with the results of another study that was conducted in Nigeria. In this study respondents believed that the first obstacle for EBM implementation was insufficient time. It can depend on the volume of patients who are seen daily. This finding has been confirmed by many similar studies (14).

The findings also indicated that lack of proper and adequate access to the Internet and databases to check the results of other studies and literatures is of other obstacles mentioned in this study. Therefore, it is recommended to proceed to hold training workshops by designing EBM training package to raise awareness and encourage clinical faculty members to use EBM.

Indeed it should be noted that training needs can be different according to gender, the time of post-graduate, previous research experience and expertise type (12).

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