

## Internal Medicine Residents' Views and Understanding of Evidence Based Medicine in Shiraz Medical School

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### Abstract

**Background and pupose:** Evidence based medicine has become an increasingly important topic in recent years in medical schools. The internal medicine residents as an important group in managing patient need evidences for better diagnosis and treatment. Our intension was to investigate view and understanding of evidence-based medicine (EBM) among internal medicine residents.

**Methods:** in 3 teaching hospital in shiraz university of medical school in Iran, a questionnaire was give to internal medicine residents to determine their view about EBM and their ability to access ,use and interpret evidences.

**Results:** The overall response rate was 80% (40/50). The result showed that 90% of them had previously received education in research methodology but none of them had a course about EBM. All of residents had access to MEDLINE and word web wide (www) in work place but their use isn't favorable. Only 10% of them thought they able to critically evaluate medical literatures.

**Conclusion:** The ability to evaluate the literature and apply methods of data analysis, should be educate to all trainees.

**Keywords:** EVIDENCE-BASED MEDICINE

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### Introduction

Evidence based medicine (EBM) has become an increasingly important topic in recent years as a consequence, medical schools are developing educational instruction in E.B.M. EBM can be defined as "the conscientious, explicit, and judicious use of the best evidence in making decisions about the care of individual patients."(Sackett et al 1996).

EBM integrate the best available data from clinical research into clinical practice to enhance the quality of clinical decisions and achieve the

best possible outcom (Knottnerus & Dinant 1997, Olatunbosun & Eduard 1997).

With a lack of awareness of relevant research a substantial part of clinical practice in reproductive health relies on practitioners' personal experience, resulting in large variations in practice between health care workers (Grimes D.1993) much of internal medicine revolves around clinical diagnosis, the use of diagnostic tests, and therapeutics in complex patients. The strongest evidence base in internal medicine relates to therapeutics. These emphasis the role of EBM in internal medicine and need for using strongest evidences in daily managements.

The practice of evidence based medicine by internal medicine specialists is hindered by lack of clinical information support systems for ongoing practice evaluation, bench marking and improvement (Paddy A.P 2001). Many

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internal medicine practitioners are moving towards the use of clinical practice guidelines to aid the EBM process. ( Paddy A.P 2001 )

Very little is known about internal medicine residents attitude towards incorporating evidence based medicine into every day practice in Iran to address this issue, we conducted a survey of internal medicine trainees to determine Their views on evidence based medicine, and their ability to access, interpret and use evidences.

### Materials and Methods

Shiraz University of medical Sciences in Iran has structured training program based on 3 teaching hospitals with 50 residences in internal medicine in February 2004 we conducted a survey together information on resident's back ground, their view's and understanding of evidence based medicine and their ability to access, use and interpret evidence.

We used a questionnaire after morning reports, to all residents (50) to which 34 (68%) responded. A second attempt was made 2 days later to 16 resident who didn't respond initially but we could only increase total number of replies to 40 out of 50 (80) the questionnaire consist of:

- Demographic data's
- Residents attitude toward evidence based medicine
- Their ability to access MEDLINE and world wide web (www)
- Their understanding of technical terms
- Their direct involvement in conducting research
- Trainees' confidence in assessment of published papers.
- Residents previously received education in research methodology

### Results

Of the 50 questionnaires we give to residents 40 were completed the questionnaire table 1 compare the demographic features of responders.

The table 2 shows the respondents attitudes toward evidence based medicine. Most 34(85%) agreed that practicing evidence based medicine

improved patients management but only (22.5%) of respondents agree to use EBM in daily practice to all of patients.

**Table 1.** Description of the group (n: 40)

<i>Characteristics</i>		
Sex	Men	57.5%
	Women	42.5%
Age	<30 year	22.5%
	30-34 year	62.5%
	35-39	12.5%
	>40	0%
Marital status	Single	37.5%
	Married	62.5%
Level of residency Education	<1 year	35%
	1-2 year	25%
	2-3 year	30%
	3-4 year	10%

Data presented as n (%)

**Table 2.** Resident's views about evidence based medicine

	<i>Agree</i>	<i>Disagree</i>	<i>Don't know</i>
Practicing evidence based medicine improved patients management	34(85%)	2(5%)	4(10%)
Original research is confusing	15(37.5%)	20(50%)	5(12.5%)
EBM can be used to all of patients in daily practice	9(22.5%)	21(52.5%)	10(25%)

Data presented as n(%)

The questions on evaluation of the residents ability to access and used MEDLINE or world wide web(www) shows that 40 (100%) had access in work place and library and only 24(60%) at their home. Off all trainees, 29(82.5%) had searched the literature for guideline or other forms of published evidence

about effectiveness during previous month. However when assessed for the frequency of searching only 13(32.5%) of respondents had searched the literature 3 or more times in previous month.

Most of respondents had some understanding of the technical terms used in evidence based medicine but only 8(20%) felt able to explain to others completely the meaning of all these terms. (Table 3).

**Table 3:** Understanding of residents of technical terms used in evidence based medicine

Term	<i>Don't understand</i>	<i>Some understanding</i>	<i>Understand an could explain to others</i>
Relative risk	5(12.5%)	28(70%)	7(17.5%)
Absolute risk	5(12.5%)	29(72.5%)	6(15%)
Systemic review	7(15.5%)	29(72.5%)	4(10%)
Odds ratio	6(15%)	29(72.5%)	5(12.5%)
Meta analysis	4(10%)	26(65%)	10(25%)

#### Data presented as n (%)

20(45%) of them say that had personally been involved in conducting research. The respondents background of exposure to research showed that 36(90%) had previously received formal post graduate in research methodology but unfortunately none of them had not a classic course about searching method, static, appraisal of articles or any EBM course.

Only some of respondents 19(22.5) thought they able to critically evaluate medical literature.

#### Discussion

A paradigm shift in clinical practice is integrating individual clinical expertise with vigorous published evidence. This is called evidence-based medicine (Paddy A.P 2001).

Without current best evidences medical practice risks becoming out of date, to the detriment of patients (Awoniy et al 2000).

Specialist in internal medicine have a strong research and evidence culture, and there is a

large evidence base, partially for diagnostic tests and therapeutics (Paddy A.P 2001).

In our study most of respondents agreed that practicing evidence based medicine improved patients care but only 22.5% of them agreed this method is applicable to all patients in daily practice, this shows lack of trust to EBM.

Our survey's showed that all of respondents has access to word wide web and MEDLINE at work place and majority of them 24 (72.5%) had searched the literature last month but only 10(25%) had 3 or more search data bases during previous month.

This shows the need for more emphasis about evidence based medicine and the role of it in better management of patients.

In our study unfortunately more of respondents had not received formal education in evidence based medicine. The survey showed that residents partially (not completely) understand the technical terms used in evidence based medicine.

This is so important because this make hinder of results in daily practice and education to the medical staff. residents have always played a central role in the education of medical students on internal medicine service in our center. In recent years overall attending faculty have not spent enough time to teaching of students, so the residents' complementary teaching role has been more prominent. also on daily work needs and as patients are discussed through the days, students listen intensely as residents discuss their clinical decisions, develop diagnostic and therapeutic plans and identify gaps in their knowledge, they learn from residents principles and practice of evidence based medicine

However in this research we used a self reported questionnaire and it had limitations, also the quality of evidence was not reviewed and non-experimental evidence was included.

Applying evidence based medicine in clinical practice is an important advance in an attempt to improve clinical care. Evidence based medicine should be an integral part of structured training and trainees' contracts should include time taken away from opinion based to evidence based practice.

## **Conclusion**

In our center not only resident need this skill, but other trainee's such as interns need the ability to extract, apprise and implement evidence from clinical research study, this goal can be achieved by promoting access to summaries of evidences and workshops on how to practice and teach it.

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