

## Research Article

# Awareness and the Use of Evidence-Based Medicine Resources among Physicians

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**Received:** September 09, 2019; **Accepted:** October 16, 2019; **Published:** October 23, 2019

**Abstract**

**Aim:** To evaluate awareness and the use of evidence-based medicine resources among physicians in Jordan.

**Method:** A cross-sectional study by internet was performed among 517 doctors who were responsive from a total of 717 doctors, a total of 72.1% response rate. Doctors from all specialties were contacted from a Facebook group called doctors café in Jordan. A questionnaire was given to each one of them to measure their awareness and use of Evidence based database.

**Result:** From 517 physicians 377 they are using evidenced based resources frequently, and 91 using resources but not frequently and 49 not using evidence-based resources. The resource that was mostly used by the doctors was PubMed, followed by other resources such as Up to date, National Guideline Clearinghouse, Medscape, BMJ best practice, e-books and other online journals for published papers. The Cochrane Library was surprisingly not so familiar amongst physicians.

**Conclusion:** There is good awareness about EBM among physicians in Jordan, and that benefits health care in Jordan.

**Keywords:** Evidence-based medicine; EBM resources; Physicians

## Introduction

Evidence based medicine (EBM) can be defined as the use of evidence from well-established strong research to enhance proper decision-making by medical care practitioners. Avicenna, a famous ancient physician who was also known as Ibn Sina, was one of the first physicians to conduct clinical and basic research, which make the basis for EBM, in the history of medicine [1]. The proper use of EBM is medical practice involves turning your medical problem into a question, then searching for an answer to that question within the available evidence resources. This evidence answer should then be critically appraised before being used in clinical practice to solve the medical problem [2]. The use of EBM is very critical to health-care improvement worldwide with the emergence of new research every day that can dramatically affect guidelines and hence the decision-making process. All physicians and clinical practitioners should be able to identify the best clinically applicable and valid research evidence. Not only this, but they should also be able to translate that valid information into clinical practice whenever applicable. Unfortunately, this goal is far from reachable at the current time [3].

Evidence can be divided into two types, primary and secondary evidence. Secondary evidence is more common among physicians and clinical practitioners due to their busy lifestyle. The Secondary evidence, such as systematic reviews, simply allows the reader to reach several primary evidence literatures at once, undergoing critical appraisal by clinical experts [4]. The Cochrane library produces such systematic reviews with the highest level of evidence [5].

Following are some of the most important evidence-based resources mentioned in our questionnaire:

1. Up-to-date: it is a very trustable system which provides evidence-based online clinical data to many physicians around the world [6]. Clinical data is reviewed by authorized personals who also summarize the conclusions into recommendations that can be easily applied in clinical practice.
2. MD Consult: this is a resource for full-text medical journal articles. It is also a resource for thousands of patient's handouts and drug related information.
3. PubMed/MEDLINE: this resource is a database of abstracts for millions of medical researches as well as links for full article resources.
4. BMJ Best Practice: this resource is very quick and reliable for point of care delivered information. It combines latest guidelines and evidence with opinions from experts regarding all aspects of health starting from diagnosis reaching treatment and prognosis.
5. Other known EBM resource's: *BMJ Case Report*, *Medscape Reference*, *ACP Journal Club*, *National Guideline Clearinghouse*, *DynaMed*, *Database of Abstracts of Reviews of Effect (DARE)*
6. Jordan, or Kingdom of Jordan to be more specific is an Arab country with a population of at least 10 million citizens. It is located in western Asia [7]. For each 10,000 citizens in Jordan there are 28.6 physicians as well as 17.8 pharmacists according to the latest statistics done by the Private Hospitals Association in Jordan [8].

## Methodology

A direct message was sent on Facebook to 717 Jordanian doctors from different specialties who were randomly chosen as a sample

**Table 1:** Questionnaire for awareness about EBM.

1. Are you using EBM resources?	YES		NO	
	468 (90.5%)		49 (9.5%)	
2. How frequently are you using EBM resources?	DAILY	2-3 TIMES WEEKLY	LESS OFTEN	
	182 (39%)	197 (42%)	89 (19%)	
3. Which of these EBM resources are you using?				
a. Up-to-date	52 (11.1%)			
b. MD Consult	12 (2.6%)			
c. Cochrane Library	17 (3.6%)			
d. PubMed/MEDLINE	75 (16%)			
e. BMJ Best Practice	46 (9.8%)			
f. Medscape Reference	40 (8.5%)			
g. Annals of Internal Medicine: ACP Journal Club	27 (5.8%)			
h. Database of Abstracts of Reviews of Effect (DARE)	3 (0.6%)			
i. National Guideline Clearinghouse	52 (11.1%)			
j. DynaMed	32 (6.8%)			
k. Scopus	5 (1.1%)			
l. OvidSP	3 (0.6%)			
m. CINHAL Plus with Full Text	10 (2.1%)			
n. J-Gate Plus	1 (0.2%)			
o. Online journals of various publishers (Elsevier Science, Lippincott, Wiley-Blackwell, Springer Link, Informa Healthcare, Karger, Thieme, BMJ, Oxford University Press, Sage, Nature, etc.)	43 (9.2%)			
p. e-Books of various publishers (Elsevier Science, Lippincott, etc.)	50 (10.7%)			

from Doctors Café Facebook group. The group contained more than 5000 health care workers. Only 517 doctors responded to the message and agreed to participate in the survey. Two online questionnaires were sent to the participants to fill out, one of which for general information about their characteristics as shown in Table 1 and Table 2. Data from all filled questionnaires was collected, revised, and analyzed manually. The study started January 2018 and ended August 2019.

## Results

The results of the questionnaire revealed that 90.5% of physicians in the tested sample used evidence-based resources. It was found that online evidence resources were more popular between physicians. Although most physicians were familiar with EBM, most of them did not use it on a daily basis. 197 physicians (42%) used it between two and three days a week, while 182 others used it on a daily basis (39%). The other 89 (19%) participant doctors did not use it that often. There were no big differences between the evidence resources used. The most popular among them was “PubMed” which was used by 16% of the participants. Other popular resources among the participants were the “Up to Date” and the “National Guideline Clearinghouse” which were both used by 52 (11.1%) participants.

Male participant physicians were more than females, with a percentage of 76% vs 24%. Most of the participant were aged between 30 and 49. 42% of the participants were in their thirties while

**Table 2:** Respondent physicians' characteristics.

Sex:	Male	395 (76%)
	Female	122 (24%)
Age group:	<30	45 (8.7%)
	30-39	217 (42%)
	40-49	165 (31.9%)
	50-59	76 (14.7%)
	>60	14 (2.7%)
Education degree:	Bachelor degree (general physician)	59 (11.4%)
	Master degree	286 (55.3%)
	Doctorate degree	172 (33.3%)
Average no of daily visiting patients:	<20	47 (9.1%)
	20-40	120 (23.2%)
	40-60	254 (49.1%)
	60-80	31 (6%)
	>80	65 (12.6%)

almost 32% were in their forties. The rest of the participants were scattered between younger (<30) and older ages (>50). Only 59 of the participants were general physicians whereas the rest were specialized physicians. 55.3% of the total participants were master degree holders while 33.3% held doctorate degree. The most common no of daily patient visitors among the participant physicians was between 40 and 60 patients.

## Conclusion

The participant group of physicians was a good sample representing most physicians in Jordan. The awareness of EBM resources among Jordanian physicians is very acceptable with a percentage exceeding 90% in our study sample. This has helped improve physician knowledge and had a positive effect on their decision making which improved health care in Jordan. It was found that Jordanian physicians were more familiar with online EBM resources. This may be due to lack of time when they have to see an average of fifty patients per day. PubMed, Up to Date and the National Guidelines Clearinghouse are the most popular EBM resources among physicians in Jordan.

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