

Perceptions Towards Evidence Based Medicine and Implementation Obstacles at Primary Care Clinics, King Fahd Armed Forces Hospital, Jeddah City, Saudi Arabia, 2013

Nayef A. Aljohani¹, Noha A. Dashash²

¹Family Medicine Department, King Fahd Armed Forces hospital, Jeddah, Saudi Arabia.

²Joint Program of Family and Community Medicine, Jeddah, Saudi Arabia.

ABSTRACT

Objectives: This study was conducted in the Military hospital primary care clinics to determine the perceptions and attitude, as well as to identify obstacles towards practicing Evidence Based Medicine (EBM) among physicians.

Methods: A cross-sectional study using a previously validated self-administered (electronic) questionnaire was conducted.

Results: Out of the 120 primary health care physicians invited to participate in the study, 113 responded, giving a response rate of 94.2%. Fifty two percent of the responders were males and 54% were Saudi. Qualifications of participants included MBBS degree (69%) and Board or equivalent degree (14.2%). Mean rating score (scale 1 to 10) of physicians' attitude towards the current promotion of EBM was 8.01. Family medicine consultants and physicians previously attending EBM courses showed significant positive attitude towards EBM. Lack of personal time (84.1%), availability and access to information (77.9%) were the main reported barriers against practicing EBM.

Conclusion: Primary health care physicians in clinics of KFAFH, Jeddah showed a welcoming attitude towards EBM.

Keywords: Attitude, Evidence based Medicine, Primary care, Physicians.

*Correspondence to:

Nayef A. Aljohani, SBFM, ABFM

Senior registrar,
Family Medicine department,
King Fahd Armed Forces hospital,
Jeddah, Saudi Arabia.

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INTRODUCTION

Improvement of patient care in primary care by the identification and promotion of practices with a high quality and safety standards; preventing ineffective or harmful interventions, decreasing errors and reducing cost, are the main reasons behind practicing evidence based medicine (EBM). Furthermore, practicing EBM sorts clinicians who able to access literature according their needs, criticizing it and integrating the best scientific evidence, ensuring advancement of knowledge into their own practice, making them self-directed learners.^{1,2}

The term EBM has been defined by Sackett et al as "the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients."³ Its practical meaning is the integration of the best research evidence with clinical expertise and patient values.⁴

Most physicians believe in EBM and want to practice in an evidence-based way. This no longer requires evaluating original research. Instead, it means finding good secondary sources that summarize the literature and give you useful, actionable bottom line synopses; based on the evidence.⁵

Over the past 20 years, EBM has made a difference in all more critical in our thinking about the efficacy and safety of

interventions. This is evident in the higher standards of our spoken and written work, formal and informal, and in our approach to the subject.⁶

Systematic reviews and meta-analyses are of the greatest achievements of EBM, methods by which researchers identify multiple studies on a topic, separate the best ones and then critically analyze them to come up with a summary of the best available evidence.⁷ Flaherty said "In the last few years, we've seen an explosion in the publication of systematic reviews and meta-analyses on useful and practical topics that just weren't looked at previously", "Physicians now have at their disposal a lot of the work already done for them."⁸

Ely and colleagues studied how often family physicians faced clinical questions in their practices and what they did to resolve their uncertainty. The researchers found that clinical questions arose 3.2 times for every 10 patients seen, but physicians did not seek an answer 64 percent of the time. "Most clinical questions don't get answered, and most of the time that's because the physician doesn't pursue an answer. If the physician does pursue an answer, then about 80 percent of the time they'll get a reasonable one, according to our research."⁵

Physicians spent less than two minutes seeking an answer to a question. The two most common sources were: fellow physicians and other individuals or textbooks.⁷

“Most physicians depend on relatively low-quality sources of information,” says Flaherty. “Traditional medical journal Articles that describe randomized controlled trials may seem credible, but they provide relatively low-quality information when you compare them to what a systematic review on the same topic can provide. Physicians will often read a journal article and then base decisions on that when in fact it’s only a tiny part of the picture.”^{7,8}

In 1999 a study was carried out in the Riyadh Region, Kingdom of Saudi Arabia (KSA), by Al-Ansary and Khoja reported that primary health care physicians have a welcoming attitude to EBM.⁹ In 2007, a study has conducted by Al-Gelban and his colleagues in Aseer, KSA, showed that the main obstacles 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”.¹⁰ However, we do not know about the Perceptions of primary care physicians in KFAFH, Jeddah, towards EBM and the obstacles into its implementation. Hence, this study was conducted to evaluate their attitudes and major obstacles against practicing EBM.

SUBJECTS AND METHODS

A cross sectional study; using a questionnaire adapted from McColl et al.¹¹ Using a previously published questionnaire was thought to add strength to the study because it has already been tested and because it would allow for an international comparison to be drawn.

It was conducted in primary care clinics at King Fahd Armed Forces hospital (KFAFH), in Jeddah, Saudi Arabia. Jeddah is a Saudi city located in the middle of the Eastern coast of the Red Sea known as the 'Bride of the Red Sea' and is considered the economic and tourism capital of the country. Its population is estimated around 3.4 million and it is the second largest city after Riyadh.¹² There are seven satellite clinics associated with the KFAFH. These are the Royal Palace, Prince Sultan Palace, Royal Saudi Airforce, Air Defence Institute, Ground Forces, Naval Base and Al Quadimah clinic.

Primary care clinics have two sections, the male section and the female section, each section has its own reception, registry system and working hours. The working hours in the male section start from 7:30Am - 4:00 PM, then from 4:00 Pm – 12:00 Am. At a.m. there are 10 clinics and 8 clinics at p.m. The working hours in the female section start from 7:30Am - 3:00 PM then from 3:00 Pm – 9:00 Pm. At a.m. there are 14 clinics and 9 clinics at p.m. Estimated number of patients attending primary care center in the morning shift in both sections is about 900-1000 patients. In the evening shift is around 400-500 patients. These clinics provide primary care services to members of the Saudi Arabian Armed Forces and their dependents. Data gathering started at first of May 2013 for a period of 6 months. All primary care physicians working in primary care clinics in KFAFH in Jeddah, regardless of their qualification were invited to participate in study. These were a total of 120 physicians.

A self-administered questionnaire was designed and used in an electronic format, using survey monkey. Questionnaire consisted of four parts: Questionnaire regarding personal, medical practice, questionnaire regarding the attitude toward evidence based

medicine, and questionnaire about obstacles against practicing evidence based medicine.

Physicians` responses to 7 questions regarding their attitude towards EBM resources on scales ranged between 1 and 10 were computed in a way that the highest the score, the positive the attitude towards EBM. Thus, the total score ranged between 7 and 70.

A written permission from Joint Program of Family and Community Medicine, Jeddah was obtained before conduction of the research as well as ethical approval from the research ethics committee of KFAFH was obtained. An informed consent was obtained from all participants.

Data analysis was conducted using SPSS software version 20. Continuous variables were presented as mean, median, standard deviation (SD) and interquartile range while categorical variables were presented as frequency and percentage. Student’s t-test was utilized to compare two independent quantitative variables and ANOVA test was applied to compare more than two independent quantitative variables. Significance was determined at p value ≤ 0.05.

Table 1: Personal details of the primary care physicians, KFAFH, Jeddah (n=113).

Personal details	Frequency	Percentage
Gender		
Male	59	52.2
Female	54	47.8
Nationality		
Saudi	61	54.0
Non-Saudi	52	46.0
Medical qualification		
MBBS only	78	69.0
Diploma/master	16	16.8
Board/equivalent	19	14.2
Current job		
Intern	7	6.2
Family medicine resident	28	24.8
Family medicine registrar	12	10.6
Family medicine consultant	5	4.4
General practitioner	48	42.5
Others	13	11.5
Experience of practicing medicine		
<2	21	18.6
3-5	29	25.7
6-10	41	36.3
11-20	17	15.0
>20	5	4.4
Place of the clinic		
FM clinics	77	68.1
Others	36	31.9

Table 2: Attitude towards EBM among primary healthcare physicians, KFAFH, Jeddah

	Range	Mean±SD	Median
▪ How would you describe your attitude towards the current promotion of evidence-based medicine?	1-10 Not welcoming- Extremely welcoming	8.01±2.17	9
▪ How would you describe the attitude of most of your colleagues towards evidence-based medicine?	1-10 Not welcoming- Extremely welcoming	6.89±2.13	7
▪ How useful are Research findings in your day to day management of patients?	1-10 Useless- Extremely useful	7.42±2.14	8
▪ What percentage of your clinical practice do you feel is currently evidence-based?	10-90	65.49±18.99	70
▪ "Practicing evidence-based medicine improves patient care"	1-10 Strongly Disagree- Strongly agree	8.67±1.92	9
▪ Evidence-based medicine is of limited value"	1-10 Strongly Disagree- Strongly agree	2.48±2.10	1
▪ The adoption of EBM, however worthwhile as an ideal, places another demand on already overloaded physicians"	1-10 Strongly Disagree- Strongly agree	4.96±2.39	6

RESULTS

Out of 120 primary health care physicians invited to participate in the study, 113 of them responded giving a response rate of 94.16%. As shown in table 1, slightly more than half of the participants were males (52.2%) and Saudi (54.0%). one-third of them (31%) had higher degree with 14.2% having Board or equivalent degree. 24.6% continuing their family medicine residency training whereas 42.5% were general practitioners. Almost a third of them (36.3%) had an experience ranged between 6 and 10 years in practicing medicine.

As illustrated in table 2, physicians were asked to rate their attitude towards the current promotion of evidence-based medicine on a scale ranged between 1 (not welcoming) to 10 (extremely welcoming). A mean score of 8.01±2.17 has been obtained. When they were asked to describe the attitude of most of their colleagues towards evidence-based medicine on a scale ranged between 1 (not welcoming) to 10 (extremely welcoming). A mean score of 6.89±2.13 has been obtained. Regarding usefulness of research findings in their day to day management of patients, physicians reported a mean score of 7.42±2.14 on a scale ranged between 1 (useless) to 10 (extremely useful). Mean percentage of their clinical practice is currently evidence-based was 65.49±18.99.

When physicians were asked to rate their attitude towards the statement that practicing evidence-based medicine improves patient care, on a scale ranged between 1 (strongly disagree) to 10 (strongly agree), a mean score of 8.67±1.92 has been reported. While when they were asked to rate their attitude towards the statement that Evidence-based medicine is of limited value, on a scale ranged between 1 (strongly disagree) to 10 (strongly agree), a mean score of 2.48±2.10 has been reported. In addition, when they were asked to rate their attitude towards the

statement that The adoption of EBM, however worthwhile as an ideal, places another demand on already overloaded physicians, on a scale ranged between 1 (strongly disagree) to 10 (strongly agree), a mean score of 4.96±2.39 has been reported.

Table 4 shows that non-Saudi physicians reported more positive attitude towards EBM compared to Saudi physicians (mean scores were 54.10±9.93 and 50.43±9.99, respectively), p=0.053. Physicians that had board degree or equivalent expressed more positive attitude than those holding MBBS or diploma/master degrees (mean scores were 56.63±6.63, 51.24±11.05 and 51±7, respectively). However, this difference was not statistically significant. The highest attitude towards EBM score was reported among family medicine consultants (mean score was 58.4±5.5) while the lowest score was reported among other titles (mean score was 46.69±10.31). The difference was statistically significant, p=0.029.

Although the physicians working in hospital based clinics showed more positive attitude towards EBM than other clinics (score was 53.31±9.45 versus 49.56±11.04), this difference was not statistically significant (p=0.056).

The attitude towards EBM score was statistically significantly higher among physicians who attended a course related to EBM than those who did not attend such course (mean attitude scores were 54.67±8.69 versus 44.36±10.2), p<0.001. the attitude towards EBM score was statistically significantly higher among physicians who received formal training in search strategy than those who did receive such training (mean attitude scores were 55.73±7.97 versus 46.23±10.47), p<0.001. the attitude towards EBM score was statistically significantly higher among physicians who received formal training in critical appraisal than those who did receive such training (mean attitude scores were 54.81±9.07 versus 50.80±10.34), p=0.047.

Table 3: Factors associated with attitude towards EBM among primary health care physicians.

	Physicians attitude towards EBM score (7-70)		p-value
	Mean	SD	
Gender			
Males (n=59)	52.12	9.81	0.997*
Females (n=54)	52.11	10.47	
Nationality			
Saudi (n=61)	50.43	9.99	0.053*
Non-Saudi (n=52)	54.10	9.93	
Medical qualification			
MBBS (n=78)	51.24	11.05	0.100**
Diploma/master (n=16)	51.0	7.0	
Board/equivalent (n=19)	56.63	6.63	
Current job			
Intern (n=7)	52.71	10.76	0.029**
Family medicine resident (n=28)	48.71	10.11	
Family medicine registrar (n=12)	56.08	8.82	
Family medicine consultant (n=5)	58.40	5.50	
General practitioner (n=48)	53.83	9.74	
Others (n=13)	46.69	10.31	
Place of the clinic			
Hospital based (n=77)	53.31	9.45	0.083*
Others (n=36)	49.56	11.04	
Experience of practicing medicine (years)			
≤2 (n=21)	50.29	9.34	0.234**
3-5 (n=29)	49.41	10.44	
6-10 (n=41)	53.71	9.50	
11-20 (n=17)	55.35	10.56	
>20 (n=5)	51.40	12.60	
Attending a course related to evidence based medicine			
Yes (n=85)	54.67	8.69	<0.001*
No (n=28)	44.36	10.20	
Receiving formal training in search strategy			
Yes (n=70)	55.73	7.97	<0.001*
No (n=43)	46.23	10.47	
Receiving formal training in critical appraisal			
Yes (n=37)	54.81	9.07	0.047*
No (76)	50.80	10.34	

* Student's t-test

** ANOVA test

Table 4: Views on how best to move from opinion based to evidence based medicine: physicians' perspectives

Methods	Method you are using n (%)	Method you are interested to use in future n (%)	Most appropriate method in practice n (%)
- Learning the skills of evidence based medicine	32 (28.3)	31 (27.4)	19 (16.8)
- Seeking and applying evidence based summaries	81 (71.7)	76 (67.3)	36 (31.9)
- Using evidence based practice guidelines or protocols developed by colleagues	77 (68.1)	69 (61.1)	58 (51.3)

As shown in table 4, seeking and applying evidence based summaries was used by 71.7% of the physicians whereas methods of using evidence based practice guidelines or protocols developed by colleagues and learning the skills of evidence-based medicine were used by 68.1% and 28.3% of physicians, respectively.

Among more than half of the physicians (51.3%), the most appropriate method in practice was the method of using evidence

based practice guidelines or protocols developed by colleagues.

Figure 1 shows that the commonest reported barriers to practicing EBM in general practice from physicians' perspectives were difficulties involving whole practice (87.6%), lack of personal time (84.1%), availability and access to information (77.9%), patient's ignorance of media (72.6%), lack of investment by health authorities (62.8%) and lack of critical appraisal skills among practitioners.

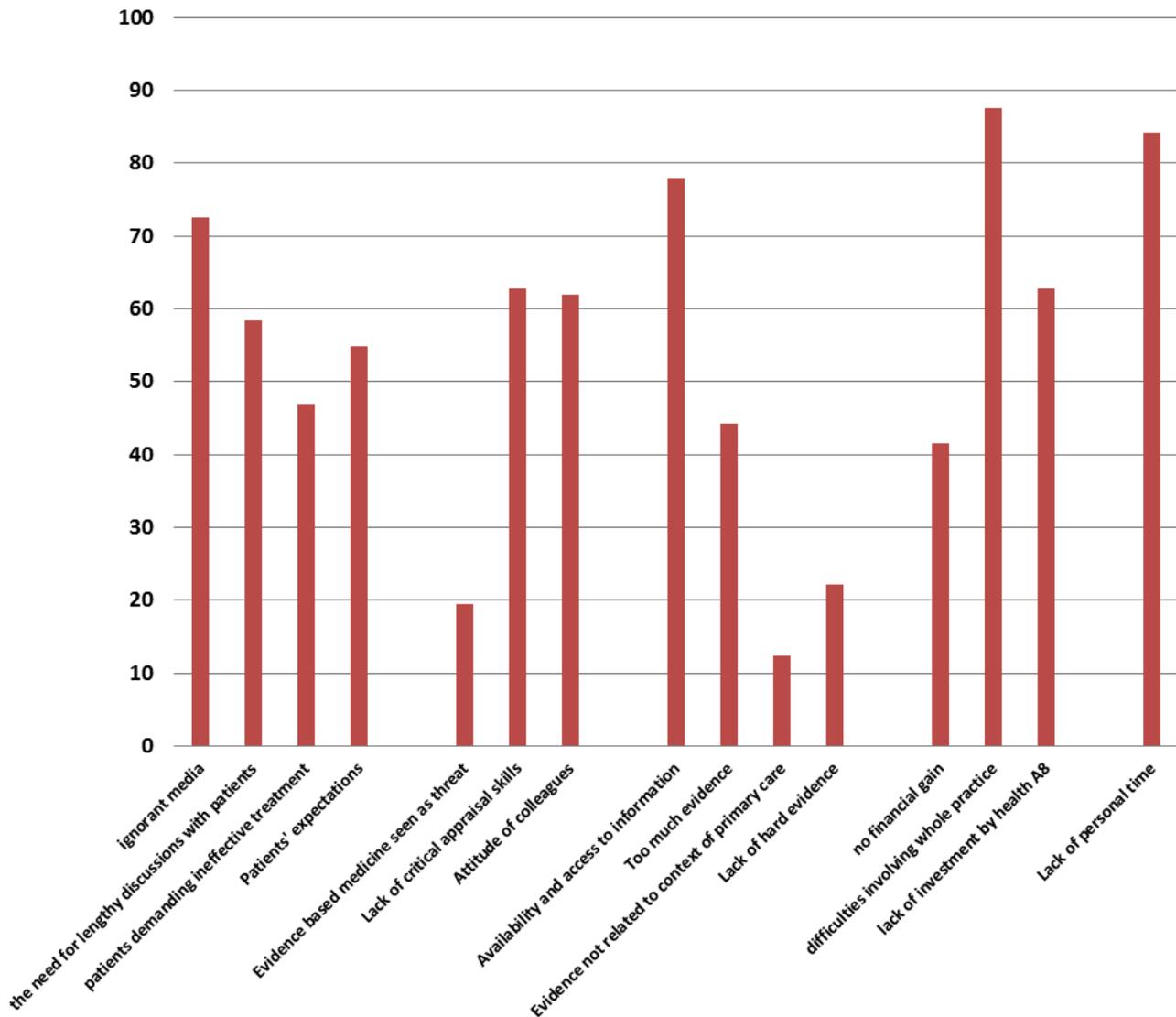


Fig 1: Major barriers to practicing EBM in general practice: primary healthcare physicians' perspectives.

DISCUSSION

The high response rate (94.16%) was in such type of survey and the small percentage of non-responders could have been due to the electronic format of the questionnaire in addition some physicians were on leave. A similar high response rate has been obtained in a study conducted in Aseer region.¹³ There is no information on the non-responders in this study but they are unlikely to be substantially different from the respondents in their evidence-based practice.

The positive attitude of physician's at KFAFH, was similar to that reported by other author's both locally^{9,14,15} and internationally.^{11,16} Most of the respondents agreed that practicing evidence based

medicine improved patient care and research findings are useful in their day to day management of patients. The median value that describes their attitude towards the current promotion of evidence-based medicine was 9 on a scale ranged between 1 (not welcoming) to 10 (extremely welcoming). Comparable findings have been reported in Taif¹⁴ and Riyadh,⁹ Saudi Arabia.

Difficulties involving whole practice, lack of personal time, availability and access to information, patient's ignorance of media, lack of investment by health authorities and lack of critical appraisal skills among practitioners were reported to be the main perceived barrier to practicing EBM in general practice. Similar observations were reported by other author's.^{13,17-19}

Interpretation of our results should be tempered by our study's limitations. It might not be appropriate to generalize it on other types of health care practitioners.

In conclusion, primary health care physicians in clinics of King Fahad Armed forces Hospital, Jeddah showed welcoming attitude towards evidence based medicine. Family medicine consultants, those holding board degrees, attended a course related to EBM, receiving formal training in search strategies or critical appraisal showed more significant positive attitude towards EBM. In the light of the present study's results, we recommended teaching primary health care physicians the basic searching skills and critical appraisal, principles of EBM and how to incorporate these into daily practice is essential though small workshops inside the primary health care centers and regular lectures by doctors who have a board qualification or they had attended evidence based medicine courses and feel more confident in understanding as well as in explaining these terms to others.

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