

Undergraduate Medical Students' Knowledge and Use of Evidence Based Medicine, Saudi Arabia: A Cross-Sectional Study

Wafa Muslih Almalki, Muath Alahmedi

MBBS, Intern, College of Medicine, Umm AlQura University, Mecca, Saudi Arabia.

ABSTRACT

Introduction: Evidence based medicine these days are the best methods for the healthcare providers to treat the patients using the newest and best ways of management. Aim of this study is to assess the medical students in Saudi Arabia about evidence about their knowledge and use of based medicine in their practice.

Methods: A descriptive, cross-sectional self-administered questionnaire was conducted among medical students in Saudi Arabia.

Results: Number of participants was 293 medical students. Number of students who had addended a course about evidence based practice was 100 and only 46 of the 293 had read journals regularly, number of 117 students had chosen the systematic review as the study which provides the strongest 'evidence'. Access to specialized EBM databases was available only to 72 of the students. If recent evidence discovered to contradict the clinical judgment, 212 will evaluate the evidence, 67 will follow the evidence and only 14 choose to discard the evidence.

Discussion: The results in our study when compared to the previous study showed some approximated results among responders.

Conclusion: Evidence based medicine is the backbone of clinical practice; it should be implanted to the medical care of patients from the undergraduate education level. More awareness and teaching about evidence based medicine should be considered with integration of the clinical expertise with the best clinical evidence from qualified study not neither alone sufficient.

Key Words: Evidence Based Medicine, Evidence Based Practice, Medical Students.

*Correspondence to:

Wafa Muslih Almalki,
MBBS, Intern, College of Medicine,
Umm AlQura University, Mecca, Saudi Arabia.

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INTRODUCTION

In clinical practice, taking care of patients and decision making with Evidence based medicine (EBM) is the conscientious, evident and wise use of the current best evidence.¹ The incorporation of clinical expertise of individual with the best clinical evidence from systematic research is the practice of evidence based medicine and good doctors use both as neither alone is sufficient.¹

In cross-sectional study carried out to Assess the knowledge about Evidence-based Medicine, phrase EBM first heard the from teachers or read in their textbooks of clinical subjects for majority of the students and house officers and only 25% of the responders in this study had attended workshops on EBM.² In another cross-sectional study conducted to assess knowledge, attitude, and barriers towards the use of evidence based practice (EBP) among senior Saudi dental and medical students, the evidence based medicine has three components which are clinical expertise, evidence based medicine resources and patient choice, more than have of the students did not choose the correct answer when they asked about EBP three components.³

Anticipating that any research study published in a journal is suitable for use in practice is not correct. However, there is variable quality in the information of the studies for this the evidence-based medicine have the a great accomplishment as it developed methods that allow the researchers to analyse the quality of the studies and then summarised the best available evidence by the systematic reviews and meta-analyses.⁴

MATERIALS AND METHODS

A descriptive, cross-sectional survey was conducted from April 2016 to June 2016. A self-administered questionnaire was distributed among medical students from different colleges across the Kingdom of Saudi Arabia. 293 questionnaires collected from a convenience sample. The questionnaire was developed from previous studies^{3,5}. We believed that adopting a previously published questionnaire would add strength to the study because it had already been tested and would allow an international comparison to be drawn.

Data Analysis

Data were entered the Statistical Package for Social Sciences (SPSS) 22 and descriptive analysis was conducted.

RESULTS

A total of 293 medical students in Saudi Arabia had participated in this study. Characteristic of participants is showed in Table 1. Number of students had attended Evidence based practice (EBP) courses and workshops were only 100 (34.1%) and only 46 (15.7%) students had read journals regularly. As clinical expertise is one of the three components of EBP, the students were asked to choose the other 2 components of EBP, which are the evidence based medicine (EBM) resources and the patient choice, the number of students who had choose the correct answer were 58 (19.8%).

Also, students were asked to choose from a list of 4 study types the study which provides the strongest 'evidence', number of 117 (39.9%) students had chosen the systematic review which is the correct answer, the other choices were animal study, cohort study, case report.

Access to specialized EBM databases was available only to 72 (24.6%), number of 118 (40.3%) had no access to EBM database while the rest of students n=103 (35.2%) did not know if the access was available or not. Total of 164 (56%) thought that Basic information on EBM should learned during the undergraduate education, 99 (33.8%) thought it should be learned as continuous medical education and 21 (7.2%) as postgraduate education.

If recent evidence discovered to contradicts the clinical judgment, 212 (72.4%) will evaluate the evidence, 67 (22.9%) will follow the evidence and only 14 (4.8%) choose to discard the evidence.

Table 1: Characteristic of Participants

| Variable | | N | % |
|---|----------------------------|-----|------|
| Gender | Male | 109 | 37.2 |
| | Female | 184 | 62.8 |
| Educational year | 2nd year | 11 | 3.8 |
| | 3rd year | 20 | 6.8 |
| | 4th year | 74 | 25.3 |
| | 5th year | 100 | 34.1 |
| | 6th year | 88 | 30 |
| English language knowledge level | Not at all | 1 | 0.3 |
| | Superficial | 10 | 3.4 |
| | Basics | 44 | 15 |
| | Good | 168 | 57.3 |
| | Excellent | 70 | 23.9 |

DISCUSSION

The evidence based practice (EBP) has high quality of patient-oriented clinical care strategies.³ In a previous cross-sectional study conducted to assess knowledge, attitude, and barriers towards the use of (EBP) among senior Saudi dental and medical students, Medical Students attendance to EBP courses or workshops was only 13.3% while in our study 34.1%, also medical students in the same previous study reported very low attitudes towards reading journals around 13.3% which come close to our study 15.7%.³

EBP has three components which are: the clinical expertise, the evidence based medicine resources and the patient choice, the question was asked to the students was: the clinical expertise is

one of the three components of the evidence based practice, what are the other two components of, in our study 58 (19.8) choose the correct answer, the same question was asked in the previous cross-sectional study showed more than half of the dental and medical students 64.3% and 73.3% respectively chose one option correct which was the "EB medicine resource" and were incorrect in the second option. Added to that, only 4.3% of dental students chose the correct answer and none of the medical students had choose the correct answer.³

In the 'Hierarchy of Evidence', students were provided four types of studies and asked to choose the strongest evidence study, and the options were provided are: animal study, systematic review, cohort study, and case report. The correct answer is the systemic review study, and students who had chosen the correct answer were 39.9%. A similar question regarding the study provides the strongest evidence was asked to the primary health care physicians and hospital physicians in a developing country, those who chose the correct answer were 31.9% and 37.8% respectively which is near to our results.(5) Also, the same question to our question was asked in the previous cross-sectional study and the responses were better when compared to our study and correct option were chosen by 53.3% of the medical students in that study.³

When we asked the medical students regarding the basic information learning about Evidence Based Medicine (EBM), majority of the medical students 56% thought should be during the undergraduate education level, 33.8% thought it should be learned as continuous medical education, the same question was asked to the primary health care physicians and hospital physicians in a developing country, only 34% primary health care physicians and 30% hospital physicians thought it should be during undergraduate level while 42% and 49% respectively thought it should be learned as continuous medical education.⁵

Majority of the students in our study (40.3%) had no Access to specialized EBM databases while only 24.6% had the access and 35% did not know if the access was available or not. This results are near to the primary health care physicians and hospital physicians study, as total of (46.37%) that had no access to specialized EBM database (primary health care 58.16% and hospitals doctors 38.71%), only 23% that had access to specialized EBM database (primary health care 14.89% and hospitals doctors 28.57% and 46% did not knew that they had access to specialized EBM database.⁵

In our study, 72% of students reported will evaluate the evidence If a recent evidence discovered to contradicts the clinical judgment, 22.9% will follow the evidence and only 14 (4.8%) choose to discard the evidence. Same question was asked to the medical students in the previous cross-sectional study and 75% of medical students reported they will evaluate the evidence and none chose to discard the evidence.³

CONCLUSION

Evidence based medicine is the backbone of clinical practice; it should be implanted to the medical care of patients from the undergraduate education level.

More awareness and teaching about evidence based medicine should be considered with integration of the clinical expertise with the best clinical evidence from qualified study not neither alone sufficient.

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