Research Awareness among Saudi Medical Students: Umm Al-Qura University Medical School as an Example

Abstract

Background: The ideal medical practice depends mainly on applying EBM when dealing with patients in order to offer the optimal medical care. Many studies have shown that using EBM potentially leads to health care improvement, cost reduction, trust building between health care providers and feeling of satisfaction among patients. In this study, we attempted to investigate the mindfulness of the research awareness among UQU students.

Method: A cross-sectional descriptive study was conducted in which all medical students (form 2nd year to the sixth year) were targeted. Close ended and Likert scale questionnaire was distributed electronically to the students.

Results: 306 out of 1380 students in the college responded to the study. The majority of the students (79.4%) reported a positive attitude towards the importance of research in general.

Conclusion: The results showed the awareness of the studied sample is quite satisfactory compared to the regional or international similar studies. A Multicenter (National/Regional) study is needed to generalize the findings.

Keywords: Research; Awareness; Medical; Students

Research Article

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Introduction

The ideal medical practice depends mainly on applying EBM when dealing with patients in order to offer the optimal medical care for them [1]. Many studies have shown that using EBM potentially leads to health care improvement, cost reduction, trust building between health care providers and feeling of satisfaction among patients [2,3]. Many medical schools have started to apply EBM in their curriculum aiming to increase research knowledge, skills, and attitudes in undergraduates [4,5]. In fact, early involvement of medical students in EBM environments is strongly associated with post graduate research practices [6]. As a result of that, it is essential to enroll and encourage undergraduate into this kind of atmosphere to ensure the efficacy of future health care system and eventually to achieve self-reliance in health care and research. To the best of our knowledge, this is the first study in the literature to measure the level of research awareness among medical students.

Methods

This is a cross sectional study which was conducted following the approval of the committee of bio-medical ethics. All male and female medical students from second, third, forth, fifth and sixth year were allowed to participate in this study. In 2011, the university established a foundation year for all new students. Accordingly, first year students were excluded from participation because they are not considered as medical students any more.

A one-page questionnaire was designed to measure the level of research awareness among the students. Close ended and Likert scale questions were only the types of questions which were used in the questionnaire. The questionnaire was started by the demographic data "year of the student and his/her gender". The following 12 additional questions were:

Q1. How important is research in the development of science IN GENERAL?

Q2. How common is the culture of research at UQU?

Q3. Are you aware of the UQU digital library facilities? Have you ever used them?

Q4. How is it important to include research in the College undergraduate syllabus?

Q5. Would your future job plans involve research?

Q6. How often you read researches or papers?

Q7. How often were you involved in research?

Q8. Have you ever attended any research course or conference?

Q9. Have you ever presented a paper or poster in a conference?

Q10. DO YOU PLAN TO DO A REASERCH?

Q11. ARE you familiar of the followings? Guidelines - EBM - UP TO DATE

Q12. In your opinion, what is more evidenced-based, research or personal clinical experience?

The study's questionnaire was distributed electronically to all batches of the college of medicine from April 2016 to June 2016. Statistical Package for the Social Sciences (SPSS) version 24 was used in the process of data analysis. Frequencies and cross tabs were used in processing the data and were illustrated in bar charts.

Results

306 (22.1%) out of the total 1380 students in the collage responded to the study. Most of the respondents were sixth year students (108/306, 35.3%) while the second year students recorded the lowest response rate (38/306, 12.4%). With regards to the importance of research in developing science in general, the majority 79.4% (243/306) of the respondents highly agreed to and nearly one-fifth 19.0% (58/306) agreed on the importance of research while only five students 1.6% (5/306) did not consider research as important in developing science (Table 1), (Figure 1). Half of the respondents 50.7% (155/306) admitted that the research culture is common in UQU Medical School whereas only 11.76% (36/306) perceived the culture as very common. On the other hand, more than a third of the students 37.6% (115/306) considered the research culture as not common (Table 2), (Figure 2).

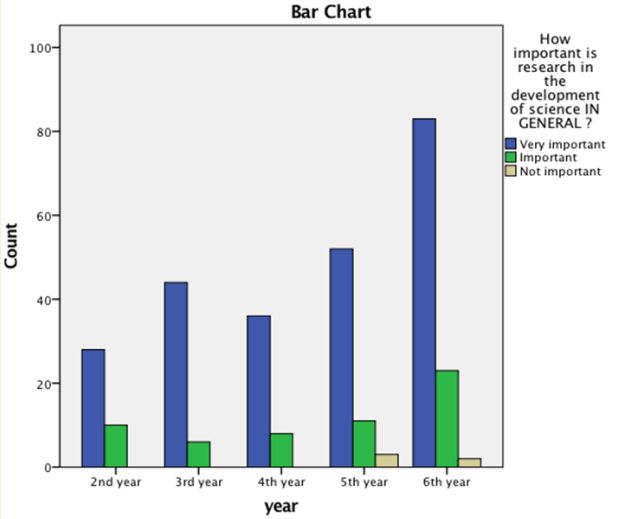

Figure 1: How important is research in the development of science in general?

Table 1: How important is research in the development of science in general?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very important	243	79.4	79.4	79.4
	Important	58	19	19	98.4
	Not important	5	1.6	1.6	100.0
	Total	306	100.0	100.0	

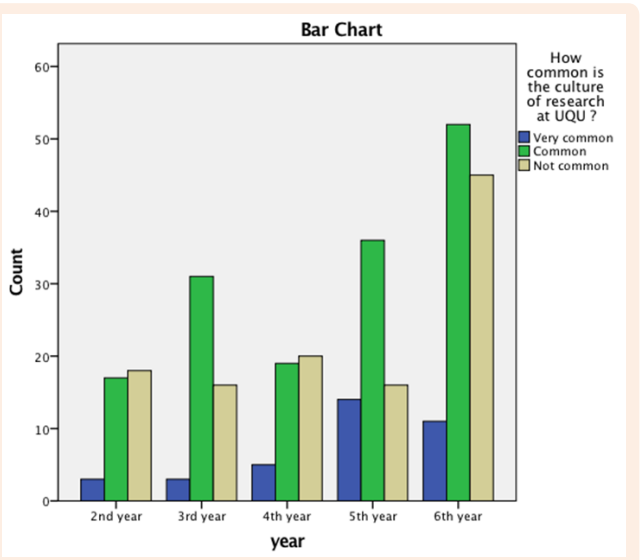

Figure 2: How common is the culture of research at UQU?

Table 2: How common is the culture of research at UQU?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very common	36	11.8	11.8	11.8
	Common	155	50.7	50.7	62.4
	Not common	115	37.6	37.6	100.0
	Total	306	100.0	100.0	

Although more than one third of students 37.9% (116/306) were aware of the local university digital library facilities, the majority 62.1% (190/306) was not aware of these facilities. Overall, only 63 students have already used these facilities before. More than half of the students 51.9% (159/306) considered research as a very important part of the undergraduate curriculum, while 37.9% (116/306) thought of it as just important. Just 10.1% (31/306) perceived it as not important. The majority of students 85% (260/306) were intending to enroll into research projects in their future practice. 8.5% (26/306) very often read researches/papers, 66.3% (203/306) often read and 25.2% (77/306) have never read any paper (Table 3), (Figure 3). Nearly two-thirds 64.4% (197/306) have often been involved in research. 4.9% (15/306) of the students have very often been involved in research, while 30.7% (94/306) have never been involved in (Table 4), (Figure 4).

More than half of the students 61.4% (188/306) have attended a research course or conference, more males 59% (111/188) compared to females 40.9% (77/188). Actually, High number of students 78.4% (240/306) have not ever presented in any conference. At that moment, 93.5% of respondents (286/306) were planning to do a research (Table 5), (Figure 5). 75.8% (232/306) were familiar with "UP TO DATE", 53.9% (165/306)

with "guidelines" and 49.7% (152/306) were familiar with EBM. 56.2% (172/306) perceived Research as more evidenced-based than PCE (personal clinical experience) of which 62.2% (107/172) are males and 37.7% (65/172) are females.

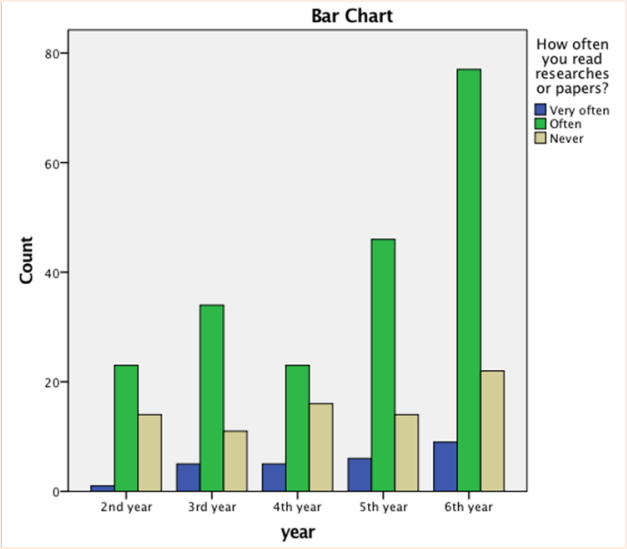

Figure 3: How often you read researches or papers?

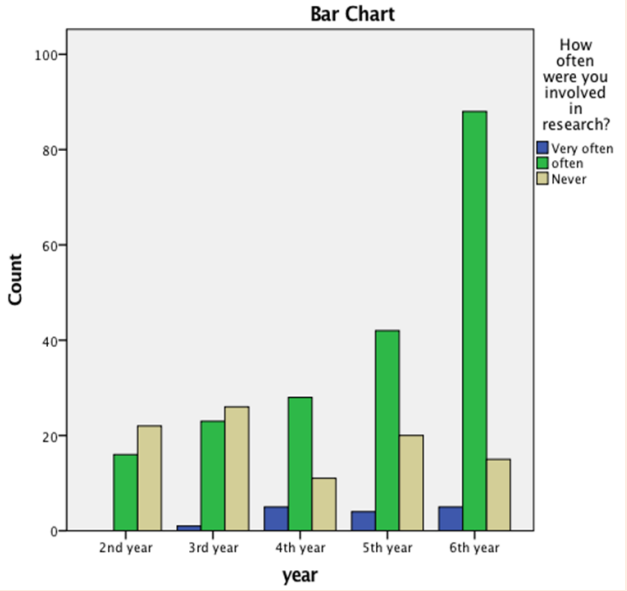

Figure 4: How often were you involved in research?

Discussion

In this study, 79.4% of the students considered research as very important to the science and 19.0% of them considered it just important, a total of 98.4% compared to another Saudi study of similar result 97.1% [7]. In a big study involving three Arabs Universities, 75.2% agreed there would be no progress of humankind without the progress of science [8]. 91.4% of post graduate Indian students in Pravara institute believed that patient outcome improves with continued medical research [9]. Our results are equivalent to most of the studies found in the literature which proved positive research attitudes among the majority of medical students" in Ireland [10], Pakistan [11], Croatia [12], New Zealand [13], Saudi Arabia [7,14] and Iran [15].

Table 3: How often you read researches or papers?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very often	26	8.5	8.5	8.5
	Often	203	66.3	66.3	74.8
	Never	77	25.2	25.2	100.0
	Total	306	100.0	100.0	

Table 4: How often were you involved in research?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very often	15	4.9	4.9	4.9
	Often	197	64.4	64.4	69.3
	Never	94	30.7	30.7	100.0
	Total	306	100.0	100.0	

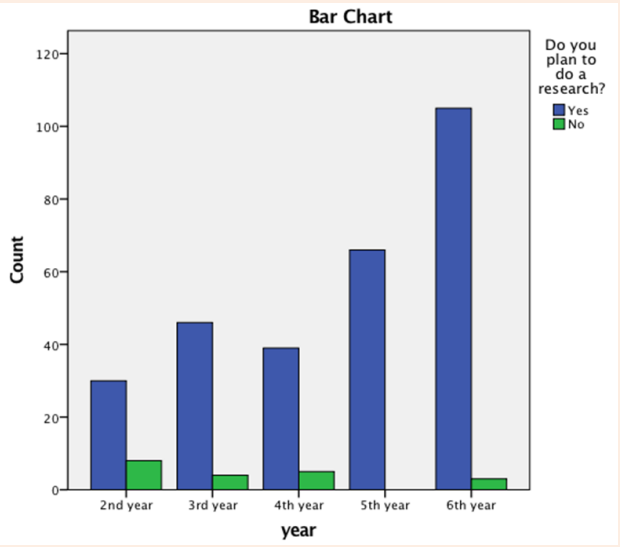

Figure 5: Do you plan to do a research?

Table 5: Do you plan to do a research?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	286	93.5	93.5	93.5
	No	20	6.5	6.5	100.0
	Total	306	100.0	100.0	

In an Irish study 81% reported they were either 'unaware' or 'totally unaware' of any research activities in their own university [10]. Whereas in our study 50.7% (155/306) see the culture of research at UQU medical school as common, 37.6%(115/306) perceive it as not common and only 11.8% (36/306) look at it as very common. Not all universities provide access to full-text journals, in one study an Iranian student demanded his university to offer the students access to full-text journals [16]. In our university, access to full text journals is provided but only 37.9% (116/306) are aware of and moreover, only 54.3% (63/116) have used it before. Participation in research projects plays a major role in improvement of students' knowledge and attitudes towards research [6]. Furthermore, research experience as a medical student is strongly associated with future research involvement [17].

Research participation is mandatory in Norwegian medical schools, which results in majority (80%) of Norwegian medical students proceed to do PhD degree, while only 2% of them don't have this ambition at all [18]. In Germany, where research is an integral part of undergraduate medical curriculum; medical students were involved in 28% of the publications in a particular institution [19]. Although currently, research is not a mandatory part of UQU medical school curriculum, 89.9% in this study agreed on the importance to include research in under graduate. In another Saudi study 87.7% (151/172) agreed on the importance of research in the undergraduate, the majority 67.4% (116/172) believed conducting research should be mandatory for all medical students [7].

This trend of positive attitude towards research in the undergraduate is observed worldwide as 97% of students included in an American study considered research a useful alternative to electives [20]. 91.4% of Pakistani medical students think undergraduate should participate in research [11]. 51.5% of Irish medical students had a positive attitude towards research [10], and 79.9% of senior Croatian medical students had the same attitude [21]. Moreover, 80% of Norwegian medical students not only wanted to pursue research after graduation but they are planning to go for a PhD degree [18]. In this study 93.5% (286/306) are currently planning to do research. While 85% (260/306) of the students are planning to practice research in their future jobs. 8.5% of students (26/306) very often and 66.3% often read researches or papers while 25.2% (77/306) never read a paper. This is compared to only 28% of Indian resident who regularly read papers [22]. Studies have proven that the involvement process of medical students in research will ensure their involvement in research later in their postgraduates [23,24]. 197 students out of 306 (64.4%) participated in the study often involved in researches. 15 students (4.9%) very often involved in researches. On the other hand, 94 students (30.7%) never involved in it.

A local study showed 55.3% (88/159) of the students have ever participated in research, while 44.7% (71/159) have not [7]. Another local study reported students had a low level of active participation in scientific research [14]. 43% of students in Canada had no significant involvement in research projects during the undergraduate period [25]. Apart from mandatory academic projects, 52.3% of AKU students have ever participated in research [11]. In a similar study done in three Arab universities, only 39.7% of the students have ever participated in research projects [8]. A low percentage (23%) of students involved in research were reported in Croatia [21]. Although 84% of the Indian residents agreed resident doctors should be involved in medical research only 50% of them had participated in research other than a dissertation project [22]. Some medical schools run mandatory undergraduate research programs as in Pakistan [11], Norway [18] and Croatia [12]. In this study, 61.4% (188/306) of UQU medical students have done it electively.

21.6% of UQU medical students did a presentation in a conference compared to 69% of Norwegian medical students [18], 48.3% of postgraduate Indian medical students [9] and only 30% of Indian residents [22]. 75.8% of UQU medical students (232/306) are familiar with "UP TO DATE", 53.9% (165/306) are familiar with "guidelines" and 49.7% (152/306) are familiar with EBM compared to poor awareness of the three Arab Universities of the concepts related to Medical Data Bases [8].

Conclusion

The results showed the awareness of the studied sample is quite satisfactory compared to the regional or international similar studies. The UQU Medical students (study population) are familiar with research, how it is conducted, data and literature search and some of them already involved in research. A Multicenter (National/Regional) study is needed to generalize the findings.

Competing Interests

The authors declare no competing interest.

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