Knowledge Attitudes and Barriers of Undergraduate Medical Students towards Research in University of Babylon

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Abstract

Students who did not participate in this activity during their training that might negatively affect their understanding of the importance of research in their future careers.

Objective of the study: To evaluate the attitude and knowledge and barriers of a sample of Iraqi medical undergraduate students.

Methodology: Across sectional study was done using a self-administered pretested questionnaire to measure the knowledge, barriers and attitudes of students toward research.

Results: Two hundred eight medical students were studied in the University of Babylon. The female to male ratio was 2:1. Regarding barriers , the study revealed that(55.3%)of the students had efficient internet. This study explained that the skill of English language writing is very low. Only one-fourth of the students were exposed to the encouragement to participate in academic research and 8.7% of the students mentioned that there was available chance for them to conduct research. Only 15.8% agreed that they can access scientific journals through university library while 3.4% of study group knew that there are government financial support toward research, 68.2% of the students said that there are no enough training in research. Regarding the attitude 73.3% of the participants had positive attitudes. The high majority of the students (85%) believed that research is highly important for their medical practice.

Keywords*: medical students , undergraduate, knowledge, attitude, barriers , Babylon.*

Introduction

Research is a systematic process and simply research can be defined as "a systematic collection of data that uses disciplined methods [1,2]. Research during undergraduate study is essential to reform health system this activities help in addressing the root of health problems and mitigating their risk factors [3]. Research is a paramount importance for application of all levels of prevention and promotion of health program[4]. Medical students usually are very busy during their study to engage in conducting medical scientific research. This is more common in source limited developing countries [5]. It is well known that of undergraduate medical students involvement in research performance will help them to be a good researcher after completing their training [6]. However, students are too busy to find sufficient time for research activities [7]. Modern medical school's curriculum include record programs[8]. Training undergrad students on record provide students with transferable skills of communications, improve managerial skills, knowledge positive attitudes and practices in critical appraisal skills programs and practicing evidence base. Medical student involvement in research has been declining over the years [9]. Medical students' engagement in research has been associated with the acquisition of teamwork, fostering positive attitudes toward scientific methodology [10,11]. Unfortunately, recent reports point to declining numbers of clinician–scientists in both developed and developing countries [12,13]. In conducting research inadequate knowledge is one of the most common reasons behind suboptimal study design or interpretation[14,15]. The syllabus of the education curriculum should be changed to deal with lack of training in research methodology using small group learning approach [16] . The factors that affect the research training are the knowledge, the attitudes and the barriers [17] . This study was done to evaluate the knowledge , attitude to and the barriers

toward research among undergraduate medical and dentistry students.

Methodology

The acceptance of the ethical committee of scientific researches in Hammurabi college of medicine was taken.

This was a cross-sectional study which was conducted at the University of Babylon – Hammurabi college of medicine and the college of dentistry during the academic year 2019-2020.

The research tool of the study questionnaire was adopted from variables of different studies.

Data were collected using the self-administered questionnaire which was adapted from another previous studies [18,19,20,21]. The questionnaire consisted of socio demographic, previous experience of scientific research, knowledge and attitudes toward research, and perceived barriers.

Data was analyzed using SPSS version 21.

Results

Table 1 shows that 55.3% of the students have efficient internet connection 1.5% have no internet what so ever. Figure (1) reveals female male ratio 2:1

Table 2 shows the distribution of 206 participates according to their skills in English language, less than one third of the students mentioned that they are good in writing and speaking English language.

Table 3 depicts the positive attitudes toward research.

Table 4 explains that only(34.5%) mentioned that they received encouragement from their tutors to participate in research activity while one-fifth of them agree that tutors are easily available to supervise research. Only 8.7% of the participants believe that there are chances are available to involve in research.

Regarding the obstacles table 5 shows that only (15.8%) cited that they have easy access to scientific journals and 72.3% of them said that there was no enough training activities in research and only 7.5% of the respondents had participated in some sort of research activities.

Table 6 shows that 85% of students believe that research is important for their future medical practice.

Table 7 reveals that only 11% don't know the importance of studying the research methodology in the curriculum as a goal for their future career and self-learning.

More than halve of the study group (57%) believe research will be a career goal.

Figure (2) shows that 88% of the respondents either disagree or they don't know that there are awards to encourage researcher.

Figure (3) shows that 3% of participant know that the government support research activities in Iraq.

Table 1: distribution of 206 students according to the availability of internet connection

Internet Connection (total N=206)	**N (%)**
No internet	3 (1.5)
Slow connection (not always available)	89 (43.2)
High speed connection	114 (55.3)

Table 2: distribution of 206 participates according to their skills in English language (writing, reading, and speaking)

English language skills – Writing (total N=206)	**N (%)**
Very poor	7 (3.4)
Poor	4 (1.9)
Intermediate	137 (66.5)
Good	47 (22.8)
Very good	11 (5.3)

Cont... **Table 2: distribution of 206 participates according to their skills in English language (writing, reading, and speaking)**

English language skills – Speaking (total N=206)	N (%)
Very poor	6 (2.9)
Poor	32 (15.5)
Intermediate	122 (59.2)
Good	37 (18)
Very good	9 (4.4)
English language skills – Reading (total N=206)	N (%)
Very poor	5 (2.4)
Poor	11 (5.3)
Intermediate	110 (53.4)
Good	63 (30.6)
Very good	17 (8.3)

Table 3: Distribution of students according to their attitude towards conducting research during undergraduate study.

Research involvement status (total N=206)	N (%)
Not interested in research	55 (26.7)
Interested but don't know how to involve in research	108 (52.4)
Actively looking to involve in research	43 (20.9)

Table 4: Distribution of students according to exposure to encouragement to conduct research by their tutors

Encouragement by academic staff to participate in academic research (total N=203)	**N (%)**
Encouraged	70 (34.5)
Not encouraged	133 (65.5)
Tutors are easily available to supervise research (Total N=204)	N (%)
Don't know	71 (34.8)
Disagree	42 (20.6)
Average	50 (24.5)
Agree	41 (20.1)
Many chances are available to involve in research (Total N=206)	N (%)
Don't know	70 (34)
Disagree	78 (37.9)
Average	40 (19.4)
Agree	18 (8.7)

Table 5: Distribution of students according to the access to scientific journals and capacity building in research methodologies during their undergraduate study.

Easy access to scientific journals through university library (Total N=202)	N (%)
Don't know	40 (19.8)
Disagree	84 (41.6)
Average	46 (22.8)
Agree	32 (15.8)
	N (%)
There are enough training in research methods (Total N=198)	
Strongly disagree	38 (19.2)
Disagree	97 (49)
Neutral	47 (23.7)
Agree	15 (7.6)
Strongly agree	1 (0.5)
	N (%)
Participated in training course about medical research (Total N=200)	
Strongly disagree	58 (29)
Disagree	107 (53.5)
Neutral	20 (10)
Agree	10 (5)
Strongly agree	5 (2.5)

Table 6: distribution of students according to their believe that research is important for medical practice and academic study.

Research is important in medical practice (total N=201)	**N (%)**
Strongly disagree	7 (3.5)
Disagree	2 (1)
Neutral	21 (10.4)
Agree	69 (34.3)
Strongly agree	102 (50.7)
Research is important during academic study (Total N=202)	N (%)
Strongly disagree	9 (4.5)
Disagree	7 (3.5)
Neutral	29 (14.4)
Agree	82 (40.6)
Strongly agree	75 37.1)

Discussion

In developing countries, medical students are less involved in research activities owing to limited resources and other barriers [22].

Attitude of undergraduate medical students and other students in health science, their knowledge about research and the barriers toward this educational activity are three key components that have an impact on research success [23]. In this study there is a positive attitude toward research conducting among the study group, this finding goes with the finding of other studies [16,18,19] Positive attitude among the study group indicates very good sign to encourage them in this crucial field because poor attitude regarding conducting research act as barrier in planning and implementing research activates [23].

English language skills are stronger barriers together with , lack of resources that facilitate the process of conducting research such as high speed internet, award and encouragement in the teaching environment to enhance research work as a learning tool that stimulating critical thinking and help them to gain critical appraisal skills that help in understanding the evidence medicine practice in their future career, these findings are similar to the findings reported by other researchers[16, 18, 19].

One of the main barriers toward research in this study current study is the inappropriate internet network connection which may affect the research activities.

In a local study the respondents think that the problems of slow network speed and frequent interruptions in communication are obstacles that cause problems in conducting academic research [24].

In this study only one fourth of the respondents mentioned that they receive support from their mentors to bring their attention to the importance of the skills of conducting research in practicing medicine, mentorship is crucial for research [25]. From our experience under graduate students who were encouraged by their professors were publishing scientific papers)[26,27,28,29,30].

The lack of adequate mentorship has been reported as a main research barrier in many studies[15,21] .

Most participants think that research mentors are unavailable, and a lack of guidance and supervision was reported by a substantial number of participants as a reason for not participating in research, lack of academic staff and institutional support in promoting health research is an important obstacle, in a local study about the status of scientific research and the obstacles according to the opinions of 600 academicians from six Iraqi universities mentioned that the absence of institutional support for the scientific research and the-Low level of governmental expenditure on scientific activities are the main barriers for conducting scientific research [31].

Conclusion

Students had the moderate level of knowledge and positive attitudes toward the conduct of medical research. English language funding, awarding , poor internet connection and limited access to relevant medical journals and databases were the major barriers.

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Conflict of Interest: None to declare.

Ethical Clearance: All experimental protocols were approved under the University of Babylon – Hammurabi Medical College, Iraq and all experiments were carried out in accordance with approved guidelines.

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