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ARE MEDICAL COLLEGES GRADUATE PHYSICIANS MATCHING THEIR STATED LEARNING OBJECTIVES? PERSPECTIVES OF NEWLY GRADUATE PHYSICIANS BAGHDAD 2018

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ABSTRACT

Background: Teaching medical students to achieve the required competencies stated in the learning objectives is a challenging task for medical colleges. Evaluation of the acquisition of these competencies by the newly graduated physicians is a crucial step to improve medical education.

Objective: To determine the level of knowledge, skills, attitude and evidence based medicine practice of junior physicians from the perspectives of their peers.

Subjects and Methods: A self-administered questionnaire survey of a convenient sample of 284junior physicians was conducted. They survey covers the five teaching hospitals and the 30 general hospitals of Baghdad. The questionnaire addressed the physicians' view on the four domains of medical education: knowledge (10 questions), practice (10 questions), attitude (10

questions) and evidence based medicine practice (5 questions) of their colleagues during their early years of practice medicine.

Results: The physicians viewed that the overall knowledge domain score of their peers is 72.82% (good).But, they have fair to poor knowledge in the topics of crisis management (85.56%), Management of Health system (64.43%), and preventive care (62.32%).In the skills domain, the overall score is 72.60% (good). Fair to poor scores mostly found in the skills of "Minor surgery and IV& IM drug administration's"(81.33%), "Reading X rays & ECG" (74.45%), and "1st aid care" (62.32%). Lower overall score (62.32%) was found in ethical domain (fair). The lowest excellent to good practices were viewed for only 9.86% of the physicians in "Conducting research", 16.43% in "Apprising research paper", and 18.84% and in "Reading medical journals".

Conclusion: Competencies achieved in medical education as well their methods of learning should be revised and improved. Special emphasis should be done on ethical and EBM practice domains.

Key wards: competency; learning objectives; medical education; Baghdad

INTRODUCTION

The primary objective of medical colleges is to graduate physicians professional in certain competencies to practice medicine effectively and efficiently. Professional practice includes showing care and respect to patients and behaving with integrity, responsibility and accountability to all patients. The learning outcomes of the undergraduate curriculum should explicitly include these competencies, albeit at a more advanced level, with continuing evaluation [(1)].

Medical education uses a variety of terms (learning outcomes, learning objectives, competencies), to describe what graduates should achieve as a result of educational interventions. And, at the end of this intervention, it is responsible not only for the transition of medical students to doctors, but its quality is the bedrock of the quality of healthcare [(2).]

Both medical education system and healthcare providing system in Iraq were considered among the best educational and medical systems in the region, especially during the early 1980s. Following this golden period, these systems suffered from regression and descent as a result of successive wars and conflicts [(3, 4)].

There are five medical colleges in Baghdad; each is backed with teaching hospital for clinical training. Although two of these five medical colleges leave the traditional subject-based curriculum and adopted the integrated system–based curriculum, but the graduation of students taught with new curriculum will start in July 2019[5]. Medical students in all colleges follow a path of six years in the college to build up their clinical experiences in the classroom and on the wards. Although most of medical colleges provide education in the traditional mode with outdated curricula[6], but all these colleges stated objectives that outline the competencies of junior physicians and make them understand their responsibilities for providing the best care for their patients.[4].

In recent years, the outcomes of medical schools curricula have expanded to meet the new changes and social accountability of the physician. These outcomes not only assist students in developing the required knowledge skills, attitude (ethics) that will prepare them for advanced training during residency, but also establish the first step toward research work [7,8]. In addition, evidence based medicine (EBM) is considered now the forth fundamental part (with knowledge, skills, and ethics) of medical schools [9]. EBM practice is not only help the student to critically apprise paper and find the best approach, but it is also effective in improving the knowledge, behaviors and skills of residents physicians[10].

Assessment of achieving the outcomes of each objective among the graduate physician should be done periodically to make the necessary modification and improvement. Changes in medical knowledge, healthcare delivery, patients' expectations, and even doctors themselves require also corresponding revision and changes [11].

Despite the long period of teaching medicine, medical education in Iraq is poorly assessed and there is a general lack of documented knowledge about the challenges facing this field and the needs for its development [12].However, most of what is known about the outcomes of Iraqi medical schools curricula relies on simple observational data. And, realizing medical education in Iraq is on the brink of a major paradigm shift from traditional to integrated curriculum [6], this study conducted to measure the outcomes of traditional curriculum to generate data useful not only in current situation assessment but even for future comparison.

SUBJECTS AND METHODS

After the approval of the Scientific and Research Committee in Alkindy College of

Medicine-University of Baghdad, the survey was conducted between January and October 2018.Junior physicians, with 1-2 years residency, of the teaching and general hospitals in Baghdad were the target population to be included in this study. They were asking to fill the study questionnaire showing their perspectives about their peers, same graduation year, in the current hospital.

The study questionnaire was created to summarize the objectives of all medical colleges. Questions about the core topics in each of the 4domains: knowledge, skills, attitudes (or ethics), and EBM practice were included. There were 10 questions addressing the first three domains and five questions about EBM practice domain. For each question four choices are available (Excellent, Good, Fair and Poor). The junior physician should select the one he/she believes in to answer the question "How you evaluate your colleagues' current approach with the patients regarding their Knowledge? Skills? Ethics? And EBM practice?

The frequency and the percentage of responding for each question were calculated. In an attempt to more specifically delineate each domain, a score of 10, 8, 6, and 4 was given to each correspondent answer (Excellent=10, Good=8, Fair=6 and Poor=4) to calculate an overall estimate for each domain. The total number of each answer is multiply by its score, and then added together and divided by the total sample multiply by 10 (the highest score).

The overall estimate was considered excellent when the total score ≥80, good when the total score ranges between 70-79.9, fair when the total score ranges between 60 - 69.9 and poor if it <60(13).

RESULTS

Two hundred eighty-four questionnaires were collected and analyzed. The overall knowledge domain score is 72.82% which is considered good score. 19.01%, 35.56%, 35.92, and 9.51% of the physicians perspectives considered their peers Excellent, Good, Fair and Poor in knowledge domain, respectively.

The perspectives of the physicians that their peers have excellent to good knowledge in most of the topics, but less knowledge in "Crisis management" (85.56% fair to poor), "Management of Health system"(64.43% fair to poor), and "preventive care" (62.32% fair to poor) (Table 1).

In the skills domains, the overall score is 72.60% which is considered good score also. 18.66%, 35.56%, 33.10, and 11.27% of the physicians perspectives considered their peers Excellent, Good, Fair and Poor in skills domain, respectively.

Fair to poor scores mostly found in the skills of "Minor surgery and IV& IM drug administration's "(81.33%), "Reading X rays & ECG"(74.45%), and "1st aid care" (62.32%) (Table 2).

Lower overall score was found in ethical domain (62.32%), which is considered fair, as the overall fair and poor levels were 50.00% and 23.42% respectively. Although encouraging percentages were found in Excellent and good scores in perspectives of physician especially in the questions of "taking verbal consent before exam the patient" (50.36%) and "sympathy with the patient" (48.94%), but the perspectives to approaching other questions were unaccepted, and the most unacceptable fair to poor scores in ethical approaches were found in "Altruism with the patient"(93.31%), "Reporting of self or colleague medical errors" (92.95%), and "empathy with the patient" (86.27%) (Table 3).

More drastic and unaccepted results were found in EBM practice. A poor (59.37%) overall score was found among the perspectives of the physicians. Fair to poor perspectives accounted for 68.66% and excellent to good perspective found only in 31.34% of the physicians. Excellent to good practices were viewed for 9.86% in "Conducting research", 16.43% in "Apprising research paper", 18.84% of the physicians in "Reading medical journals", 41.9% in "Self-learning & updating on best evidence", and. 72.89% in "Searching websites for best evidence" (Table 4)

Table 1: The perspectives levels of junior physicians regarding their peers' current knowledge to different topics in medical education

	Knowledge Domain	Excellent No (%)	Good No (%)	Fair No (%)	Poor No (%)
1	Common communicable diseases	73 (25.70)	179 (63.03)	24 (8.45)	8 (2.82)
2	Common non communicable diseases	68 (23.94)	158 (55.63)	42 (14.79)	16 (5.63)
3	Comprehensive care	45 (15.85)	111 (39.08)	92 (32.39)	36 (12.68)
4	Preventive care	39 (13.73)	68 (23.94)	139 (48.94)	38 (13.38)
5	Community needs & care	36 (12.68)	83 (29.23)	143 (50.35)	22 (7.75)
6	Primary health care	101 (35.56)	91 (32.04)	75 (26.41)	17 (5.99)
7	Common prescribed drugs	71 (25.00)	103 (36.27)	92 (32.39)	18 (6.34)
8	Managemt of Health system	16 (5.63)	85 (29.93)	143 (50.35)	40 (14.08)
9	Social determinant of health	86 (30.28)	92 (32.39)	88 (30.99)	18 (6.34)
10	Crisis management	9 (3.17)	32 (11.27)	182 (64.08)	61 (21.48)
Overall knowledge Domain		54 (19.01)	101 (35.56)	102 (35.92)	27 (9.51)
Score of 100%		72.82%			

Table 2: The perspective levels of junior physicians regarding their current peers' skills to different procedures in medical education

	Skills Domain	Excellent No (%)	Good No (%)	Fair No (%)	Poor No (%)
1	1st aid care	39 (13.73)	68 (23.94)	139 (48.94)	38 (13.38)
2	Safe exam and intervention	78 (27.46)	94 (33.10)	82 (28.87)	30 (10.56)
3	Communication & Leading skills	71 (25.00)	103 (36.27)	92 (32.39)	18 (6.34)
4	Filling case sheet	101 (35.56)	87 (30.63)	75 (26.41)	21 (7.39)
5	Diagnosis of Common Disease	85 (29.93)	156 (54.93)	35 (12.32)	8 (2.82)
6	Referral to specialist or more senior physician	46 (16.20)	168 (59.15)	55 (19.37)	15 (5.28)
7	Health counselling	38 (13.38)	124 (43.66)	84 (29.58)	38 (13.38)
8	Interpreting common lab tests	45 (15.85)	162 (57.04)	54 (19.01)	23 (8.10)
9	Reading X rays & ECG	8 (2.82)	62 (21.83)	166 (58.45)	48 (16.90)
10	Minor surgeries and IV& IM drug administrations	22 (7.75)	31 (10.92)	157 (55.28)	74 (26.05)
Overall Skills Domain		53 (18.66)	105 (36.97)	94 (33.10)	32 (11.27)
Score of 100%		72.60%			

Table 3: The perspective levels of junior physicians regarding their current peers' ethical behavior in practicing medicine

	Ethical Domain	Excellent No (%)	Good No (%)	Fair No (%)	Poor No (%)
1	Respect of the patient dignity	0 (0)	64 (22.54)	186 (65.49)	34 (11.97)
2	Safe Approach to the patient	26 (9.15)	81 (28.52)	159 (55.99)	18 (6.34)
3	Confidentiality with patient information	32 (11.27)	70 (24.65)	126 (44.36)	56 (19.72)
4	Taking verbal consent before patient exam	12 (4.23)	131(46.13)	33 (11.62)	108 (38.03)
5	Sympathy with the patient	64 (22.54)	75 (26.40)	108 (38.03)	37 (13.03)
6	Empathy with the patient	12 (4.23)	27 (9.51)	194 (68.31)	51 (17.96)
7	Sharing clinical decisions with the patient	39 (13.73)	68 (23.94)	139 (48.94)	38 (13.38)
8	Altruism with the patient	8 (2.82)	11 (3.87)	174 (61.27)	91 (32.04)
9	Reporting of self or colleague medical errors	4 (1.41)	16 (5.64)	82 (28.87)	182 (64.08)
10	Respect of his colleagues and other hospital staff	31 (10.92)	88 (30.98)	113 (39.79)	52 (18.31)
Overall Ethical Domain		23 (8.10)	53 (18.66)	142 (50.00)	66 (23.24)
Score of 100%		62.32%			

Table 4: The levels of perspectives of junior physicians regarding their current peers' EBM practice

	EBM issues	Excellent No (%)	Good No (%)	Fair No (%)	Poor No (%)
1	Reading medical journals	11 (3.87)	42 (14.79)	58 (20.42)	173 (60.92)
2	Apprising research paper	6 (2.11)	35 (12.32)	68 (23.94)	175 (61.62)
3	Searching websites for best evidence	45 (15.85)	162 (57.04)	54 (19.01)	23 (8.10)
4	Conducting research	3 (1.06)	25 (8.80)	94 (33.10)	162 (75.04)
5	Self-learning & updating on best evidence	31 (10.92)	88 (30.98)	113 (39.79)	52 (18.31)
Overall EBM Domain		19 (6.69)	70 (24.65)	78 (27.46)	117 (41.20)
Score of 100%		59.37%			

DISCUSSION

Medical education is keystone on which high quality healthcare is belt. Now more than ever, the pressure is on to provide high quality care while increasing efficiency and reducing costs. To achieve that, the World Health Organization (WHO) established outcomes competencies expected of a doctor as care-provider, decision-maker, communicator, community leader and manager (five star doctor) [14, 15].

Graduating physician must judiciously use his /her competencies in knowledge, clinical reasoning, communication, emotions, and

values in daily practice for the benefit of the individuals and communities [16]. In order to describe the competencies of medical colleges' graduates in Baghdad, we studied the perspectives of their peers as a proxy measure for current medical practice. This assessment process provides an opportunity to identify and address any area in which improvement may be needed and to recognize those domains that reflect effective educational practice.

Medical colleges, postgraduate training programs, and licensing bodies in different countries, have made real efforts to provide accurate, reliable, and timely assessments of the competence of trainees and practicing physicians [17].Standardization and longitudinal research work assessment represent the challenge of developing tools for quantifying and qualifying these competencies [18].

In the United States, the assessment of medical residents is largely based on a model that was developed by the Accreditation Council for Graduate Medical Education (ACGME). This model uses six interrelated domains of competence: medical knowledge, patient care, professionalism, communication and interpersonal skills, practice-based learning and improvement, and systems-based practice [14].

Most of the published researchers studied one or sometime more topics in assessing competencies. This topic reflects knowledge, skills, or attitude domains. It's difficult and challenging to fairly and precisely evaluate the entire domain. Tekian and John in 2015 tried to evaluate of knowledge, skills, and behavior domains, of the medical students for different Arab countries. The evaluation of knowledge domain was based on first attempt pass rates USMLE Step 1 and for clinical skills requirement and behavior, the evaluation was based on USMLE Step 2CS (USMLE offered from 2004-2012). In the USMLE Step 11st attempt pass rate, Jordan physicians had the highest rate (90.96%) and Kuwait physicians had and lowest rate (47.37%), while Iraqi physicians had 75.35%. In the USMLE Step 2CS, the 1st attempt pass rate was highest among Qatar physicians (94.59%), and lowest among Omani physicians (62.50%, but among Iraqi graduates was 77.35% [19].

The findings of the study clearly indicate that the curriculum of the medical school does not satisfy the expectations that the newly graduated physicians have the sufficient competencies necessary for provision of comprehensive health care services based on best evidence. Although Knowledge and skills domain among the newly graduated

physicians were viewed good by their peers, further improvement should be made. In knowledge domain, more focusing on the new principle of comprehensive care and health system management is required. In skills domain, revision and more training are needed in practicing minor surgeries, IV& IM drug administrations, besides interpreting X rays & ECG findings.

Our assessment was done immediately after finishing the first year of residency. Will these perspectives be valid and representative in estimating the achieving of learning objectives in medical education? Although our study is rather subjective and preliminary, it has shown imperative results that should motivated us to improve our teaching for undergraduates in the near future. Our ultimate goal as teachers is for our graduates to have the highest competency in their daily practice of medicine.

Towards this goal, the ethical and EBM practice competencies achieved in medical education, as well their methods of learning should be revised and improved dramatically. This improvement opportunity may be offered soon as medical colleges in Iraq have started to switch into the integrated curriculum. The transition should guarantee the acquisition of newly graduated physician with the necessary knowledge and skills for management of common health diseases and problems with a scientific background and necessary skills for EBM practice and research work, besides, be able to make plans to improve the health level of the community [(20)]. We require further follow-up researches and more standardized assessment methods.

Ethical Approval: The ethical approval has been granted from the Scientific and Research Committee in Alkindy College of Medicine-University of Baghdad

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