

Evaluation of Medical Colleges` Graduates in Iraq

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ABSTRACT

Background: There are two main medical teaching systems; the older traditional and the newer of block courses methodology. Sequential feedback evaluation of the medical graduates is mandatory in the accredited medical colleges.

Most of Iraqi medical colleges apply the traditional UK teaching system.

Aims: To evaluate the clinical skills experiences of Iraqi medical college's outcomes and to remind health authority on the resident competency level in order to achieve effective internship training and safe health service.

Subjects and methods: During December 2010 a feed back self evaluation was performed for 38 new resident doctors (♀/♂; 26/12), (26) were from University of Karbala, while the rest from other universities. The checklist consisted of 52 randomly closed basic medical skills.

Results: Responding rate were (100%).In (16) skills group (34) 94%-(20), 52% respondents claimed having proper performance (median73). In the other 2/, (32) skills3group, (12), 32%-(0), 0% respondents claimed having the skills (median; 22.5). All were untrained to perform 3 life supporting skills. (1♂&8♀) of graduates had the experience to examine the similar sex genitalia. (35; 92%) of graduates were unconfident about their clinical skills.

Conclusion: The medical college graduates are under the supposed level of the faculties` objectives. Faculties should implement sequential outcome evaluations, depend the more contemporary integrated teaching methodology aided by the clinical skill labs, and concern the emergency and inpatient training under supervision of expert staff.

المخلص

المقدمة: في التعليم الطبي هناك طريقتان أساسيتان، هما الطريقة التقليدية القديمة والطريقة الحديثة التي تعتمد نظام الكورسات المنهجية. معظم كليات الطب في العراق تعتمد الطريقة التقليدية البريطانية القديمة.

الأهداف: تقويم المهارات السريرية لخريجي كليات الطب الجدد وإطلاع الدوائر الصحية بالمستوى السريري لأغراض تدريبية ووظيفية.

الطريقة: خلال كانون الأول 2010 أجري التقويم بطريقة التغذية الراجعة، شمل 38 طبيب مقيم دوري (♀/♂: 26/12)، قضاوا شهرين في وظيفتهم، 26 منهم خريجي جامعة كربلاء الوجبة الأولى والباقيون من الجامعات العراقية الأخرى. استمارة التقويم احتوت 52 مهارة سريرية وشؤون وظيفية أخرى.

النتائج: نسبة الاستجابة 100%، ظهر أن (38/20-38/34) يدعون امتلاكهم 16 مهارة سريرية و (38/12-38/0) منهم يمتلكون المهارات السريرية الحيوية المدونة في استمارة التقييم وإن جميعهم غير مدربين على إجراء 3 من مهارات إنقاذ الحياة. طبيب ذكر واحد فقط وثمانية إناث لديهم خبرة فحص وإجراء التداخلات البسيطة في المناطق الجنسية لنفس الجنس. أن (92%) من الخريجين لا يتقنون في مهاراتهم السريرية.

الخاتمة: مستوى الخبرات السريرية المقترض تعلمها دون المستوى المطلوب. من الأفضل إجراء اختبارات التغذية الراجعة دورياً للخريجين وإدخال برنامج مختبر المهارات السريرية بالتداخل مع التدريب السريري الحي والتركيز على التدريب العملي للطلبة في وحدات الطوارئ والردهات بإشراف كوادر معتمدة.

Key words; medical education, University of Karbala, internship, rotator resident doctors, feedback evaluation

Introduction

There are two main medical teaching systems; the old traditional method which depends the usual lectures, basic science laboratories, and the real patient based

teaching. Another system is the block courses method that basically implements the self learning, problem based small group teaching with brain storming, herein the students gain clinical experiences inside the skill labs before they enface the

real patients, start manikins training and people communication during early years of study⁽¹⁾. Sequential feedback evaluation of the medical graduates is a mandatory way in the accredited medical colleges⁽²⁾.

The College of Medicine of Karbala first started at 2005, the first alumni were at 2010. All Karbala graduates and some other colleges graduates were posted in the Health Directorate of Karbala in the grade of rotator resident doctors.⁽³⁾

Most Iraqi medical colleges "including Karbala college" apply the traditional old UK teaching methodology with a formal curriculum include; basic medical knowledge, medical communication, medical ethics, essential diagnostic and interventional clinical skills, as well as medical documentation⁽⁴⁾. These are parts of the objectives of the accredited medical schools^(4,5). The graduate supposed to be competent to practice safely and effectively^(5, 6). Mastering basic clinical skills are required to take over the internship duties under supervision or some times alone. Probably the student some times fails to acquire some of these basic clinical skills; this defect may expose both junior doctor and patients to troubles before he or she can gain the experiences through his internship training.

In Iraq medical undergraduates qualified MB.Ch.B. certificate after passing the final examination thereafter they are "routinely" recognized as members of the Iraqi Medical Association without further evaluation.

The internship (rotation residency) job in Iraq consists of twelve months rotation in medicine, surgery, gynecology /obstetrics, pediatric medicine and other specialties⁽³⁾.

In UK, before 2005, the first year internship stage was the "Pre Registration House Officer", after that date the first year internship was changed to the "Foundation year1". The supervision and evaluation of juniors in this stage are the responsibility of the same graduating medical school, the faculty representative will sign the certificate of successful

(foundation year1) training in order to be officially registered⁽¹⁾.

An approximated recommendation and implementation appeared in the Arabian Gulf Cooperation Council for the accreditation of the medical schools^(2,4).

The sequential outcome-based assessment of the medical colleges is an essential application measure to reach the faculty mission and goals as well as to ensure proper health service⁽⁴⁾, this assessment is also an opportunity to appraise the educational effectiveness of the internship trainers⁽⁸⁾.

Objectives

Evaluate the clinical skills experiences of Iraqi medical college's outcomes. Remind health authority about the resident clinical skills competency level in order to achieve effective internship training and safe health service.

Subjects and methods

During December 2010 we chose thirty eight newly graduated residents, (26) females and (12) males of equal age "24" years, (26) were from Karbala University, (3) from Baghdad, (3) from Al-Mustanserya, (2) from Al-kindy, (2) from Babel, (1) from Kufa and (1) from Tekrit. The residents spent two months "rotation residency" in the clinical departments of Karbala Teaching Hospitals. The study depended the self evaluation system, graduates requested to mark independently on a checklist format contains (52) inquiries pertained to clinical skills, duties, comments and recommendations. the checklist is without personal identification. The items list were chosen randomly from the official Iraqi Quality Assurance and Accreditation Department as well as from accredited global medical schools^(4,6,7). These items not essentially all what are required. The name of the university and gender were also included.

According to the subjective feeling, the respondent mark (+) for a proper skill performance, (\pm) for a poor or doubtful performance, and mark (-) if does not have the skill.

The responses are ranked into five categories;

1. High proper clinical performance.
2. Low clinical performance.
3. Karbala graduates performance in contrast to the other graduates.
4. Gender and clinical skills performance.
5. Comments and recommendations.

Results

The responding rate was (100%). As shown in (table1), the proper performance of the respondents range;(34), 94%-(20),52%, SD; 13%, median; 73 in (16) clinical skills. In the same group there were;(4),10%-(18),42%, those who do not have these skills range (0), 0%-(8),21%,SD;6%,or have imperfect experience ;range (4),10%-(13), 34%, SD; 7%. Most of these skills are diagnostic or communicational.

In the low level performance group (table 2) in two third (32) of the clinical skills the respondents who claimed having proper experience; range (0),0% - (12), 32% , median; 22.5, SD; 13%, those who do not have these skills; range (0), 0%-(38),100%, SD; 29% or they are not sure; range (0), 0%-(26), 68%, SD; 19%. These skills list include diagnostic, therapeutic, simple interventional, first aid, and life saving procedures .

Most of the female graduates (23),88% could perform proper female and male breast examination, versus (7), 58% of males (table 3).

Eleven, 42% of females confidently perform obstetric examination but no male graduate does. Only (1),8% of male juniors have the experience to examine the genitalia of male patients in contrast (8), 30% of female graduates can examine female genitalia . Minority, (4%) of female

graduates can perform cervical smear versus (16%) of males .

Three ,8% of the graduates claimed having enough clinical skills to take over their duties, (7),18% feel having enough theoretical knowledge and (13),34% thought that the intern job fruitful for the patients (table 4).

The graduates stressed on the following skill difficulties:

1. Venous cannulation.
2. Endotracheal intubation.
3. Urine catheter.
4. Nasogastric tube.
5. Clinical obstetric and gynecology experiences.
6. Emergency management.
7. Trauma management.
8. Critical care management.
9. Fracture management.
10. Emergency cardiac medicine.

The following comments appeared in some feedback checklists:

1. The theory teaching was of postgraduate level and inapplicable.
2. The learned skills are different from what are actually practiced.
3. They are not precisely recognizing the intern duties and responsibilities.

Discussion

The objectives of undergraduate medical education is to prepare graduates well equipped with scientific knowledgeable skills responding to the health needs of the individuals, family and community, to have professional competence, ethical behavior, compassion and caring attitude^(6,7).

The medical school education curriculum implements essential factual knowledge and professional clinical skills regarding patient management and emergency interventions .In Iraq the education and training curriculum policy, in part, is supposed to ensure the needs and

expectations of Iraqi society and circumstances^(1,4,5).

This study is subjective self evaluation, it may be associated with some self over estimation, but practically "at present" is the only available approach. It may be with some realism because the juniors exposed to the internship in busy hospitals for two months, hence during this period they got staff and peers evaluation for their performance.

Although the resident during the year of internship may gain some clinical experiences^(6,7,8). The strategy is that most of the new residents should master standardized skills and should manage acute situations before having the responsibility of their first duty in the casualty or inpatient units alone or with a peer.

Table 1. high rate clinical skill in descending sequence. (all; all graduates, Kar; graduates of Karbala) (columns color: Communication skills; yellow, surgery; green, medicine; blue. G/O; brown, radiology; gray)

Clinical skills		+		±		-	
		all	Kar	all	Kar	all	Kar
1	Auscultation of abdomen for bowel sounds	34 89%	24 92%	4 10%	2 8%	0 0%	0 0%
2	Examination of the female and male breast, including regional lymph nodes	31 81%	20 76%	6 19%	5 13%	1 3%	1 4%
3	Communication with patient and proper history taking	31 81%	20 77%	6 15%	5 13%	1 3%	1 4%
4	Communication with patient family	31 81%	20 77%	7 18%	5 19%	1 3%	1 4%
5	Normal / abnormal Pulses; radial, femoral, popliteal...ect	30 79%	22 85%	8 21%	4 15%	0 0%	0 0%
6	Full clinical abdominal examination, including assessment for enlargement of liver, spleen, kidneys, tenderness, peritoneum, hernias and masses.	30 79%	20 77%	7 18%	5 19%	1 3%	1 4%
7	Communication with seniors	30 79%	20 77%	9 24%	5 19%	1 3%	1 4%
8	Surface markings of the contents of the abdomen.	29 73%	15 60%	8 22%	6 23%	1 3%	0 0%
9	Examination of the cranial nerves I-XII	28 74%	18 29%	10 26%	8 31%	0 0%	0 0%
10	Communication with staff	23 60%	16 62%	13 32%	9 35%	2 6%	1 4%
11	Full respiratory examination.	22 58%	16 61%	15 39%	11 42%	1 3%	0 0%
12	Assessment of the peripheral sensory examination and reflexes	21 55%	13 53%	14 37%	10 8%	3 8%	3 12%
13	Performing simple suturing	21 55%	11 42%	11 29%	9 35%	6 15%	5 19%
14	Assessment of the vascular supply to a limb after trauma or surgery	20 53%	12 46%	10 26%	7 18%	8 21%	7 27%
15	Assessment of visual acuity, color vision and pupillary reflexes	20 53%	12 46%	16 42%	12 46%	2 8%	1 4%
16	Communication with sub staff	20 53%	16 62%	13 34%	9 35%	5 13%	0 0%
SD		13%	17%	9%	12%	6%	7%
Median		73	62	25	19	3	4

Table 2, low rate clinical skills in ascending sequence. (all; of all graduates, Kar; graduates of Karbala) (columns color: Communication skills; yellow, surgery; green, medicine; blue. G/O; brown, radiology; gray)

Clinical skills	+		±		-	
	all	Kar	all	Kar	all	Kar
1 Venous cutdown.	0 (0%)	0 (0%)	0(0%)	0(0%)	38(100%)	26(100%)
2 Respiratory assistance, emergency tracheostomy or cricothyroidotomy	0 (0%)	0 (0%)	1(3%)	1 (4%)	37(97%)	25(96%)
3 Endotracheal intubation.	0 (0%)	0 (0%)	3 (8%)	3(12%)	35(92%)	23(88%)
4 CVP measurement.	1 (3%)	0 (0%)	5 (19%)	3 (12%)	31 (81%)	22 (86%)
5 Standard dipsticks to analyze samples of urine.	1(3%)	0(0%)	9(24%)	7(18%)	29(76%)	19(73%)
6 Plaster of Paris application.	3(8%)	0(0%)	10(26%)	7(18%)	25(66%)	18(69%)
7 Cervical pap smear	3(8%)	1(4%)	9(24%)	5(19%)	25(66%)	20(77%)
8 Taking an arterial blood sample (radial and femoral).	4(11%)	0(0%)	9(24%)	6(23%)	25(66%)	19(73%)
9 Splints application.	4(11%)	0(0%)	9(24%)	5(19%)	24(63%)	20(77%)
10 Taking swabs for bacterial, viral and fungal infections.	4(11%)	3(12%)	14(37%)	8(30%)	20(53%)	15(58%)
11 The drug dosage and recording the outcome accurately.	4(11%)	0(0%)	26(68%)	20(77%)	8(21%)	6(23%)
12 Practicing joint immobilization.	6(16%)	2(8%)	12(32%)	5(19%)	20(52%)	19(73%)
13 The prescribing and indications of different % of oxygen therapy.	7(18%)	5(19%)	24(63%)	16(62%)	7(18%)	5(19%)
14 Diagnoses of common and infectious skin lesions.	7(18%)	6(23%)	24(63%)	13(50%)	6(16%)	6(23%)
15 Types and indications of parenteral medications	7(18%)	5(19%)	24(63%)	16(42%)	6(16%)	5(19%)
16 Appropriate Male and female urinary catheterization.	8(21%)	4(15%)	16(42%)	11(42%)	14(37%)	10(38%)
17 Intravenous injection, cannulation, venous blood sampling.	9(24%)	5(19%)	20(52%)	14(36%)	11(29%)	8(30%)
18 Nasogastric tube insertion and management.	10(26%)	7(27%)	13(34%)	9(35%)	15(39%)	10(38%)
19 Interpretation of x rays of common locomotor conditions.	11(29%)	8(30%)	22(58%)	14(36%)	5(13%)	4(15%)
20 Writing safe inpatient and discharge prescriptions.	11(29%)	7(27%)	23(61%)	16(42%)	4(11%)	3(12%)
21 Proper application of Glasgow Coma Score.	11(29%)	7(27%)	23(61%)	11(42%)	3(8%)	2(8%)
22 Examination of the external genitalia of (♂, ♀).	12(32%)	6(23%)	19(50%)	11(42%)	11(29%)	9(35%)
23 Prescription, setting up, and operating a nebulizer correctly.	12(32%)	6(23%)	15(39%)	11(42%)	11(29%)	9(35%)
24 Bandage application.	13(34%)	6(24%)	15(39%)	10(38%)	10(26%)	10(38%)
25 Identifying gross musculoskeletal pathology on X ray.	13(34%)	10(38%)	19(50%)	12(46%)	7(18%)	6(23%)
26 Proper shock management.	13(34%)	7(27%)	22(58%)	16(42%)	3(8%)	3(12%)
27 Pregnant and fetal assessment.	13(34%)	8(20%)	18(47%)	13(50%)	7(18%)	5(19%)
28 Principles and practice of good wound care.	14(37%)	9(35%)	19(50%)	12(46%)	5(13%)	5(19%)
29 Writing concise, accurate and legible case notes.	15(39%)	8(31%)	19(50%)	16(42%)	4(10%)	3(12%)
30 Recognizing drugs involved with common medical conditions.	15(39%)	9(36%)	20(52%)	16(42%)	3(8%)	1(4%)
31 Requesting and filling the investigations forms accurately.	16(42%)	11(42%)	22(58%)	15(58%)	0(0%)	0(0%)
32 Obtaining a mid stream urine specimen from a patient.	17(45%)	9(35%)	9(24%)	7(27%)	12(32%)	10(38%)
SD	13%	14%	19%	17%	29%	30%
Median	22.5	19	44.5	40	29	35

Table 3. gender and clinical skills.

Clinical skills		+	±	-
1	Examination of the female and male breast, including regional lymph nodes.	23♀,88% 7♂,58%	3♀,11% 3♂,25%	0♀,0% 2♂,16%
2	Pregnant and full term fetus assessment.	11♀,42% 0♂,0%	9♀,34% 6♂,50%	6♀,23% 6♂,50%
3	Male to male and female to female external genitalia examination.	8♀,30% 1♂,8%	12♀,46% 4♂,33%	6♀,23% 8♂,66%
4	Cervical smear.	1♀,4% 2♂,16%	6♀,23% 1♂,8%	19♀,73% 9♂,75%

Table 4. junior doctor's confidence

Confidence		+	±	-
1	The learned clinical skill curriculum is sufficient for the intern job	3 8%	24 63%	11 29%
2	The learned theory curriculum is sufficient for the intern job	7 18%	20 53%	11 29%
3	The present job is useful for the patients	13 34%	17 45%	8 21%

On reviewing the results tables " above" one can find most of the respondents master one third of the basic skills (pulse, respiratory examination and simple suturing) even though non of these skills is relevant to the life saving procedures, most are of communication skills and basic clinical examination procedures.

On the other hand less than half of the graduates feel having proper performance in two third of the listed skills which are relevant to the basic clinical and other medical responsibilities. None of the graduates has the experience to perform four important life saving procedures i.e. venous cutdown, respiratory assistance, endotracheal intubation and emergency tracheostomy. Less than one third can perform basic diagnostic and therapeutic professions such as intravenous injection and venous cannulation, taking arterial blood sample, Pap smear, joint immobilization, male and female urinary catheterization. These facts may demonstrate a poor exposure and participation of the training student in the real patient's management activities and casualty reception.

Although some studies which evaluate the intern doctors skills pointed to unacceptable levels of performance in

many developed and developing countries,^(2,8) in some parts of the world those with poor performance are not certificated after the first year residency and may be dismissed from the health service^(1,7,8).

There is an approximated rate of Karbala graduates performance in relation to other colleges` graduates indicating the similarity of undergraduate training curricula(table 1,2).

The graduates appeared having very low experience in examining the sex organs with some variations in gender (table 3).this fact doesn't applied solely for the different sex examination but also for the similar gender examination Certainly the socio religious barrier and the cases shortage are main factors for this imperfectness state . The induction of clinical skills integrating training may cut-short both^(7,9,10). In fact there is a relatively good rate in breast examination skill, this is may be explained by the demonstration of breast examination on available breast manikins during the clinical training sessions.

Most of the graduates are unconfident about the sufficiency of the learned clinical skills and theoretical background (table 4), some feel they are useless as

health providers at the present, other feel that the theory lectures are of post graduate level and the practical schedule is inapplicable locally. Actually they need what help them in taking over their duties without problems and the faculties need moving to the outcome-based education policy.

The skill acquisition demands time to be adapted as professional behavior, the training curriculum has to implement more effectual and real hand on the clinical training through gearing toward an effective contemporary skills teaching methodology which depends the following steps; ⁽⁹⁾

- a. Skill acquisition
- b. Skill competency
- c. Skill proficiency

Conclusions;

The clinical skills level of the graduates is under desirable standard and every effort is needed to revise the educational curriculum in order to offer more eligible professional outcomes.

Recommendations;

- 1- Sequential preinternship and postinternship evaluations.
- 2- Popularization of the integrated clinical skills lab with its recommended tools.
- 3- More concern to the real clinical training to meet the clinical skills profession.
- 4- Setting up practical courses with performance evaluation before resident employment.

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