

Evaluation of the cardiology curriculum based on the opinions of the assistants of cardiology

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Background: Revision and promotion of educational programs, as well as guiding such programs from the traditional to modern ones, have been one of the goals of educational planning in order to improve the educational status. The present study was performed based on the opinions of the cardiology assistants.

Methods: This research was a cross sectional study and all the participants included were the cardiology assistants, from the second to the fourth grade. Sampling was designed to be done effortlessly; seeking opinions from all the assistants with regard to the present curriculum, in addition to investigating their needs for planning changes in it, was carried out through a questionnaire.

Results: In this study, 55% of the population consisted of men and 45% of women. It turned out that only 38% of them knew the curriculum and bore a precise definition of it in mind. 55% of the total participants concurred to the idea of rotation in the internal medicine ward while 40% demanded radical changes to be made there. In this study, it was made clear that 38% of the assistants agreed to rotation in the cardiology research center. 73% of them demanded holding pre-assistance classes to develop their skills. 66% of the assistants did not grasp the meaning of Evidence Base Medicine. 38% of the participants were partly pleased with the in-ward evaluation by professors whereas 62% did not consider it satisfactory at all.

Conclusion: Evaluation of the cardiology curriculum of Iran based on the opinions of the assistants of Mashhad Medical University signifies the necessity of changes in it. Contrary to the existing curriculum in many countries, the present curriculum of the Ministry of Health does not include a clear accurate lesson plan for the assistants and only mentions the resources, topics and general skills necessary for them.

Key words: educational program, need analysis, cardiology curriculum

بررسی نظرات دستیاران تخصصی قلب و عروق دانشگاه علوم پزشکی مشهد در رابطه با کوریکولوم تخصصی قلب و عروق در سال ۱۳۹۱

مقدمه: برنامه‌ریزی آموزشی طبق الگوی برنامه‌ریزی استراتژیک صورت گرفته و از آن به عنوان روشی برای بهبود نتایج آموزشی استفاده می‌شود. یکی از اهداف مسئولان برنامه‌ریزی آموزشی، بازنگری و بهینه‌سازی برنامه‌های موجود و هدایت آنها از وضعیت سنتی به نوین می‌باشد. این کار از طریق بررسی استانداردهای برنامه آموزشی یا کوریکولوم‌های تخصصی علوم پزشکی در سطح ملی و بین المللی و تطبیق با برنامه‌های موجود صورت می‌پذیرد.

روش: این مطالعه مقطعی بوده و جامعه مورد بررسی دستیاران تخصصی سال دوم، سوم و چهارم می‌باشند. نظرسنجی از تمامی دستیاران در رابطه با کوریکولوم موجود و نیز بررسی نیازهای آنها جهت طراحی تغییرات در کوریکولوم، توسط پرسش‌نامه، انجام پذیرفت.

نتایج: در این بررسی که ۵۵ درصد جامعه پژوهش را مردان تشکیل می‌دادند، مشخص شد فقط ۳۸ درصد، تعریف صحیحی از کوریکولوم در ذهن دارند. در کوریکولوم فعلی دستیاران قلب به مدت یکسال در بخش داخلی آموزش می‌بینند. در حالیکه فقط ۵۵ درصد با چرخش در این بخش موافق هستند و ۲۸ درصد با چرخش در مرکز تحقیقات قلب و عروق موافقت. ایشان خواستار آموزش روش‌های صحیح دستیابی به منابع الکترونیکی و ارائه صحیح ژورنال کلاب و مهارت‌های مقاله‌نویسی، کار با کامپیوتر و نرم‌افزارهای مرتبط با رشته خود می‌باشند. ۷۳ درصد خواستار برگزاری کلاس‌های ابتدای دوره جهت افزایش مهارت هستند. مشخص گردید ۶۶ درصد آنها هیچ تعریفی از آن EBM در ذهن ندارند و در نهایت ۶۲ درصد از ارزشیابی درون‌بخشی رضایت نداشتند.

نتیجه‌گیری: در کوریکولوم فعلی وزارت بهداشت بر خلاف بسیاری از کشورها، برنامه مشخصی جهت دستیاران وجود نداشته و فقط به ذکر منابع و عناوین دروس پرداخته شده است. پیشنهاد می‌گردد کوریکولوم تمام دانشگاه‌ها به صورت دقیق و کامل تهیه گردد به طوری که برنامه آموزشی مشخص بوده و با توجه به روش‌های آموزشی نوین و منابع متعدد علمی، تمهیداتی به عمل آید که مهارت دستیاران افزایش یابد.

واژه‌های کلیدی: برنامه آموزشی، نیازسنجی، کوریکولوم قلب و عروق

تحلیل آراء الطلاب تجاه المحاضرات التي تم اجراءها على اساس المنهج هل الاستمالة في قسم اليندودانتیکس في كلية طب اليندوان في جامعه مشهور الطبية .

التصميم والهدف :

الأللوب : إن هذه الدراسة التوضيحية تم اجراءها على طلاب السنة الخامسة و السادسة في كلية طب اليندوان عام ۱۳۹۰-۱۳۹۱. تم جمع المعلومات عبر استمارات . تم الفاء المحاضرات عبر اربعة جلسات امتدت كل جلسة الى ثلاث ساعات و تم الفاء المسألة عبر اليندوان بواسطة برنامج power point و تم تقسيم الطلاب الى مجموعات مولفه من ۷-۱۰ أشخاص. تم تأييد اليندوانات من قبل أشخاص ذوي الصلاحيه و اعطيت الى الطلاب بدون اسم خلال فريقيين قبل النظر و بعد النظر. كانت وظيفة الطلاب تكميل اليندوانه إعطائهما مع اليندوانت الى سكرتيرة القسم . بعد ذلك تم جمع المعلومات و تحليلها عبر الالحصاء التوضيحي .

اليندوانت : اشارت هذه الدراسة الى إن مستوى الرضا عند طلاب السنة الخامسة و السادسة كان اعلى من المعدل المتوسط اي اعلى من (۵۰٪). وايضا اشارت هذه الدراسة الى أن هذه المحاضرات ادت الى ارتفاع المعرفة الحرفيه و مستوى العلاقة و دقة النظر و تم من خلال هذا الألوب كشف نقاط القوة و الضعف عند الطلاب .

النتائج : نستفيد من هذه الدراسة إن الالوب المحاضرات في داخل القسم و البحث داخل مجموعات صغيره يكون مفيد جدا في رفع المستوى التعليمي عند طلاب طب اليندوان .

الكلمات الرئيسية : تحليل الراء. محاضرات داخل القسم. طلاب كلية طب اليندوان . التعليم على اساس حل المسألة .

مشهد یونیورسٹی آف میڈیکل سائنسس میں قلب و عروق کے نصاب کے بارے میں ماہرین قلب و عروق کے اسسٹنٹ ڈاکٹروں کے نظریات کا جائزہ .

بیک گراؤنڈ: اسٹرائیجیک ماڈل کے تحت تعلیمی منصوبہ بندی کی جاتی ہے اور اس سے تعلیم کے بہتر نتائج حاصل کرنے کے لئے استفادہ کیا جاتا ہے۔ تعلیمی پروگراموں کے ذمہ داروں کا ایک ہدف نصابوں پر نظر ثانی کرنا اور انہیں روایتی ڈھانچے سے نکال کر جدید طرز پر لانا ہے۔ یہ کام قومی اور عالمی سطح پر میڈیکل نصابوں کا موجودہ صورتحال سے موازنہ کر کے کیا جاتا ہے۔

روش: اس عبوری تحقیق میں دوسرے، تیسرے اور چوتھے سال کے اسسٹنٹ ڈاکٹروں کو شریک کیا گیا تھا۔ اور ان سے موجودہ طبی نصاب کے بارے میں سوالات کئے گئے اور ان سے ان کی ضرورتوں اور تقاضوں کے بارے میں بھی پوچھا گیا۔ اس تحقیق میں شامل افراد کو سوالنامے دئے گئے تھے۔

نتیجے: اس تحقیق میں پچپن فیصد مرد شامل تھے، جن میں سے صرف اڑتیس فیصد کو اپنے طبی نصاب کے بارے میں صحیح معلومات حاصل تھیں۔ موجودہ نصاب میں قلب و عروق کے اسسٹنٹ ڈاکٹر ایک برس تک انٹر نل میڈیسن کی تعلیم حاصل کرتے ہیں جبکہ صرف پچپن فیصد اس تعلیم کے موافق تھے اور اڑتیس فیصد کار ڈیو و سیکولار ڈپارٹمنٹ میں تعلیم حاصل کرنے سے اتفاق رکھتے تھے۔ اس لوگوں کا خیال تھا کہ انہیں انٹرنیٹ سے صحیح تعلیمی مواد حاصل کرنے کی ٹریننگ دی جائے، طبی رسالے فراہم کئے جائیں اور تحقیقاتی مقالے لکھنے کی ٹریننگ بھی دی جائے۔ یہ لوگ کمپیوٹر سے کام کرنے اور اپنے موضوع کے سافٹ ویئر سے آشنائی کے بھی خواہاں ہیں۔

سفارشات: وزارت صحت کے موجودہ نصاب میں بہت سے ملکوں کے برخلاف اسسٹنٹ ڈاکٹروں کے لئے کوئی پروگرام ہی نہیں ہے بلکہ انہیں صرف ماخذ اور کتابوں کے حوالے نیز اسباق کے عناوین دئے دئے گئے ہیں۔ سفارش کی جاتی ہے کہ تمام میڈیکل کالجوں کے نصاب نہایت باریک بینی سے جامع اور مکمل بنائے جائیں۔

کلیدی الفاظ: تعلیمی پروگرام، ضرورتیں، موجودہ نصاب۔

INTRODUCTION

Aside from offering health services, the medical universities are also in charge of training qualified and skillful human resources to promote the well-being of the society (1-3). The evolutions which have taken place in the recent decades, have led to the wide diversity of required qualifications. In fact, changes in education are carried out to eliminate the need; therefore, the promotion of the pedagogic quality can greatly serve the maintenance of the well-being of the society.

The main components of a curriculum or educational program are: 1- the content 2- teaching and learning strategies 3- the students' assessment process based on the curriculum, and 4- the evaluation process of the curriculum (4,5). In the field of medical education, the curricular evaluation can be carried out through assistants' need analysis and identifying the problems. Need analysis, as one of the major factors in many fields dealing with programming to reach certain goals, has long been the center of attention. According to the definition, "need" has been interpreted as: 1- the demands and opinions of the people 2- a defect or problem 3- lack or necessity of something 4- distance or gap. Among the various definitions above, the most comprehensive one is its definition as a kind of distance or gap. Generally speaking, the most essential objective of need analysis is providing information for programming (5).

As medical education is altering like the field of medicine itself, it is vital that this curriculum be revised due to the needs of society and those of assistants, as well as, the advances in the field.

METHODS

This cross-sectional study was conducted based on the "need analysis approach" of the present curriculum and "the investigation of all assistants' needs" to change the existing one. In designing the questionnaire, the questions inspired by the curricula of credible universities were also included, because in the present curriculum, the details were not much attended to and most of the assistants were not informed of this issue at all. The whole research population consisted of second to fourth-grade assistant students of Mashhad Medical University. In order to carry out the research, a

questionnaire was designed by a group of university professors of the cardiology department along with the experts working at the center of educational research and development; in addition, the preparation, validity and reliability of the questionnaire were validated by seeking advice from the medical education department of the university. The questionnaires were handed one by one to the assistants. On every occasion, the researcher won all of the assistants' contribution to accurately filling out the questionnaire, and to coming up with practical and helpful suggestions, by explaining that the results would be kept confidential.

After the completion of questionnaires by the assistants, the qualitative data and the suggestions were examined and quantitatively classified. Next, the data were analyzed using SPSS software.

RESULTS

In this study, 55% of the participants were men and 45% were women. Surprisingly, only 5 assistants (5%) had read the curriculum. Awareness of the present curriculum as well as the assistants' versatility is illustrated in table 1.

The assistants' recommended solutions to promote the educational status are offered in Table 2.

The assistants demanded improving their article-writing skill and provided solutions in this regard.

Most of them concurred with the educational program at the beginning of the assistant course; besides, their suggestions regarding the required teaching subjects are represented in chart 1. The research population pointed out September (Shahrivar) as the best time for holding the classes at the beginning of assistant course (73%).

The assistants agreed on rotating in the center of cardiology research, and expected the center to teach article-writing skills as well as how to correctly interpret them.

Most of the assistants agreed about the rotation in the internal medicine ward offered in the present curriculum; however, 27% were not pleased with the way it was put into practice. The suggested wards for rotation are illustrated in chart 2.

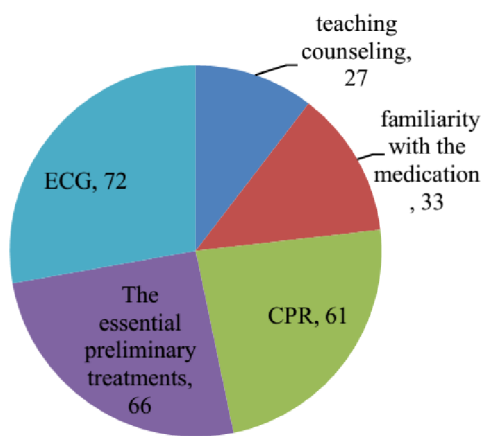
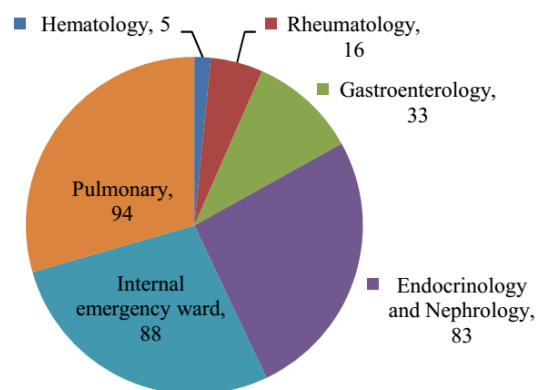
And eventually, regarding their satisfaction of the accuracy of assistants' in-ward assessment was: 38% slightly satisfied, and 62% dissatisfied; in addition, they also put forward some suggestions.

Table 1. Evaluation of the assistants' rate of awareness and versatility

Questins/percentage	lack (%)	relative (%)	full (%)
Knowledge of the curriculum	18	44	38
Awareness of article-writing skill	95	5	0
Familiarity with the correct method of presenting an article in the journal club	44	44	12
Awareness of legal issues	45	55	0
assistants' familiarity with Evidence Based Medicine	66	22	12

Table 2. The assistants' recommended solutions to promote the educational status of cardiology (skills)

Questions/ percentage	Fully disagree (%)	Slightly agree (%)	Fully agree (%)
The presentation of an article in the journal club in English	27	55	18
Giving the morning report in English	34	44	22
Teaching computer-related skills	0	28	72
Holding Evidence Based Medicine Workshops	12	33	55
Holding educational classes at the beginning of Assistant course	5	22	73
rotation in the cardiology research center	0	62	38
Rotation in the internal medicine ward	5	0	95

**Chart 1. The required subjects at the beginning of the assistant course****Chart 2. The suggested wards for rotation**

DISCUSSION

The courses of various fields have exclusive curricula. The last revision of the cardiology curriculum was made by the Commission of Codification and Education Planning in 2009 (1388). This is a four-year major of which the first year deals with rotating in the internal medicine ward and the second to fourth with the exclusive cardiology illnesses. According to the codified curriculum in the Ministry of Health, during the last three years, the assistants are to be trained for a four-month period in pediatric cardiology, nuclear medicine, and cardiac surgery, in addition to rotating in the internal medicine wards.

Besides, at the end of each year, the promotion exam of the same year and practical exams are held.

According to the present study, most of the assistants were not aware of the details of the curriculum and demanded modifications in the existing one. The present curriculum, on the other hand, has only mentioned the assistants' duties in general, but not the detailed procedures. That's why this curriculum is carried out differently in various universities,

and even in various hospitals related to the same university. Due to the existing situation, it is recommended that education is organized so that fewer practical gaps are observed among the universities. One of the carefully-designed curricula is that of European Cardiology which entails a six-year course of general illnesses, and a minimum of four-year cardiology course according to which the educational program has been based on three goals, namely changing the information or knowledge, developing the skill, and changing attitude. Moreover, the plans have already been defined accurately. There is, also, a pre-codified plan for assessment (6). The present curriculum is practiced differently, for instance with regard to the rotation among the internal medicine wards of the universities while assistants call for a specific schedule as well as rotation in particular wards. As the cardiology assistant is bound to spend a year in the internal medicine ward, the details of the rotation schedule have to be determined from the very beginning so as not to be changed by the faculty without prior notice. Besides, rotation in the internal emergency ward, Nephrology,

Gastroenterology, Endocrinology, and Pulmonology wards can also work to their advantage.

Based on the present study, assistants demanded developing their skills prior to the beginning of the assistant course; moreover, due to the shifts and advances of sciences, there exists the need for courses like English, article writing, computer skills, etc. it is worth mentioning that in many creditable universities, such skills are the prerequisites of granting entry to courses (7,8).

On account of the conducted survey, existing demands, and the study of the curricula of various countries, it is suggested that, considering the current situation, part of education is carried out virtually (9). Furthermore, with the daily advances in sciences, relying on the reference books which have been behind time for several years, is not appropriate, and there is an urgent need for teaching novel methods, including teaching through observation (10).

Considering that every assistant is bound to present a thesis at the end of the course, and regarding their unfamiliarity

with the correct writing approaches of research plans, theses, and articles, plus in order to improve the scientific rank and increase the number of the published articles of Iran throughout the world credited journals, it is recommended that teaching such skills as article writing is valued more than before.

It can be concluded that, according to this study, changing the existing curriculum and developing an accurate, level plan with specific goals which is carried out uniformly in various universities, based on the novel needs of assistants, is highly demanded.

The strong points and limitations of the study:

Studying the assistants' curriculum and their needs has been unprecedented in Iran, and this is the first study regarding this issue. However, it has some limitations, too. For instance, it was conducted in one university and only in one field; it is suggested that this research will be carried out at a more expanded level.

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