

Original Article

Examining the Learning Requirements of General Practitioner Courses in the Areas of Cognitive, Psychological-Motor and Emotion from the Perspective of Professors of Kurdistan University of Medical Sciences

Fariha Farhadifar M.D¹, Bahram Nikkhoo M.D², Arash Pouladi M.D³, Mojhdeh Bahram Rezaie M.D⁴, Sholeh Shahgheibi M.D⁵, Shoaleh Shami M.Sc⁶, Karim Nasseri M.D^{7*}, Monireh Karimian M.Sc⁶

1. Dept. of Obstetrics and Gynecology, School of Medicine, Kurdistan University of Medical Sciences, Sanandaj, Iran

2. Dept. of Pathology, School of Medicine, Kurdistan University of Medical Sciences, Sanandaj, Iran

3. Ph.D Student in Medical Genetics, School of Medical Sciences, Tarbiat Modares University, Tehran, Iran

4. Ph.D Student in Reproductive Biology, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran

5. Dept. of Obstetrics and Gynecology, School of Medicine, Kurdistan University of Medical Sciences, Sanandaj, Iran

6. Dept. of Nursing, School of Nursing and Midwifery, Kurdistan University of Medical Sciences, Sanandaj, Iran

7. Dept. of Anesthesiology, Kurdistan Research Center for Social Determinants of Health, School of Medicine, Kurdistan University of Medical Sciences, Sanandaj, Iran

*Email: Nasseri_k@muk.ac.ir

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Abstract

Introduction: It is necessary to analyze the limitations and essentials of the medical students' learning compatible with their future working environment in order to control the quality of the education. This study was designed to investigate the basics of learning and to prepare educational logbooks for all clinical departments at Kurdistan University of Medical Sciences in line with promotion of educational and students' assessment.

Methods: This study was carried out in three phases. In the first phase, content was confirmed according to the expert views. In the second phase, materials were analyzed in terms of being core and non-core. In the third phase, prioritized subjects were summarized and locations selected for teaching each skill, rotation style, regulations and responsibilities of the students, assessment method and group's expectations from students were determined. The data were analyzed by analytic hierarchy process (AHP), comparison of the content of materials and qualitative methods.

Results: All the faculty members considered capabilities such as taking the patient's history, physical examination, diagnostic decision, patient's referral skills, and appropriate relationship with patient and colleagues as the priorities of education. In addition, 93% of the faculty members added the interpretation of laboratory tests to the given list.

Conclusion: In this model, the main focus was on the content and process of education. It seems necessary, however, to pay attention to other issues like student's motivational and research factors during designing the parallel patterns.

Keywords: Logbook, Medical education, General practitioner, Cognitive, Psychological-motor

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Introduction

General practitioners are one of the pivotal elements of the health system in the country and play a major role in the public health of the society, treatment, referral and prevention of the disease. Thus, all of their educational needs in various fields should be fulfilled during the training period in terms of expectation and commensurate with their roles in the given domains (1).

The quality control of medical education includes systematic attention to preservation, promotion and improvement of the quality of medical education and depends on the final evaluation of the learned materials. On the other hand, this evaluation is dependent on factors such as students' learning trend, educational topics, educational objectives, lectures and instructors (2). One aspect of the quality control of education is analyzing the limitations and essentials of learning. Proper evaluation of the students' performance in real-like situations is another useful method of enhancing the quality of medical education (3).

The most appropriate and applicable method for controlling and improving the quality of medical education is determining the essentials of learning and teaching based on these essentials. This prevents the students' logbook confusion and makes it possible for the students to get familiar with the responsibilities and details of learning. Further, this method makes it possible to monitor the learned materials and to carry out more accurate and successful assessment at the end of each phase. Although the ministry of health and medical education has determined the topics for each course and training period, the essentials of education and methods of accomplishing the objectives have not been determined (4).

Medical faculty members are more qualified to comment on the needs and constraints of the educational system in which they serve and to determine the students' essentials of education (5). The aim of the present study was to determine the essentials of learning and to prepare educational logbooks for all clinical departments at Kurdistan University of Medical Sciences according to the faculty members' viewpoints as strategies to promote education and to assess medical students.

Methods

This study carried out using qualitative method and combining some other methods (analysis of documents,

Delphi method and focus group discussion). 115 faculty members and clinical specialists working in the university hospitals participated; 69% completed the multi-stage questionnaires in Delphi method and 84.5% took part in group discussion meetings.

Following the analysis of the educational programs of various universities inside and outside of the country along with a comprehensive study on different resources the primary list of the essentials of learning for clinical students were prepared separately for apprenticeship and internship in cognitive, psychomotor and affective domains. Other resources include the topics presented by the ministry of health and medical education, the list of the diseases in the center for disease control (CDC), the state guidelines for general practitioners and text books of each department under analysis. While talking to one of the specialists of the given group, the primary list of the topics was extracted and prepared to collect the group's views. In this stage, the Delphi qualitative method was used to identify and achieve the overall consensus of the group members. The questionnaires that were designed as decision-making matrixes were analyzed in each stage and the individuals' analyzed opinions were added to them based on the paired analysis hierarchy process. These analyses and feedbacks were repeated 3 times until an overall consensus was reached. As mentioned, in each of the educational domains, priorities were set through analytic hierarchy process (AHP) or according to the viewpoints of the faculty members of each specialty and unnecessary cases were excluded from the list. The paired analytic hierarchy process compares and scores the items in two opposing axes two by two.

This method is used to quantify and increase accuracy in the prioritization of cases, criteria and items and to help the decision-making process. The priority of the materials can be determined by making an $n \times n$ matrix and doing its numerical analysis. In the second phase following the Delphi process, in addition to the feedback taken from the results of the individuals' opinions and recompletion of the list to finalize it, the levels of learning for each topic and the number of required cases for each symptom, skill and procedure according to the criteria or indices of the disease incidence in the region, importance of the disease and the role of the practitioner in dealing with the disease were determined again based on the faculty members' views. In the third phase of the Delphi process, while getting feedback from the results of the previous questionnaire, the location for teaching every skill or subject was determined via specific questionnaires according to the faculty members' opinions. Finally, in the final phase of the study, obtained results from

Delphi method were submitted for final approval in terms of content via focus group discussion method (FGD). In this step, a group discussion meeting was held to better organize the primary materials and to make decision about the content of the educational guide so that at least one focus group discussion was held for every department according to the amount of materials. Totally, 19 FGD sessions were held, each session consisting of 6-12 members with considerable participation of the faculty members (84.5%).

To sum up, it can be stated that the logbook plan (by combining different qualitative methods) was carried out in 3 phases:

Phase 1: this phase included preparation of content (list of diseases, clinical symptoms, healthcare in healthy patients, clinical skills and procedures, risk factors and instances requiring training through problem based learning), confirmation and completion of the selected content in each section by the expert view.

Phase 2 (Delphi survey): the content lists (primary summary) were classified and results of the summary and classification of the materials along with the list of patients or the cases practiced by the student were submitted to the members of the given section to present their expert views on the materials and recognize whether they are core or non-core. Summarizing and creating balance between the estimated cases and the course duration in order to estimate the applicability of the content during each training course in each section, paying attention to different specialized programs for each part and delivering prioritization forms by the pair comparison of analytic hierarchy process (AHP) for each class of topics were performed in this phase.

Phase 3 (focus group discussion): data were analyzed using qualitative analysis methods in the focus group discussion. The prioritized subjects were summarized and presented to the groups along with the forms specifying the location(s) chosen for teaching each subject or skill. Also, the rotation style, determined regulations and duties in the group, assessment method, other activities of the group and group expectations from the students were provided to groups.

Finally, the whole acquired and approved materials of the logbook was confirmed in each section and presented to groups, faculty, hospital and education development center (EDC).

Results

From among 115 participants in this study, 53 of them (46.1%) belonged to major groups and the rest belonged to minor groups. The sex ratio of male to female participants was 2.3 to 1. The mean age of the participants was 41.4 ± 7.67 years. All the faculty members (100%) considered capabilities such as history taking and physical examination, diagnostic decision, patient skills, proper relationship with patients and colleagues as the first priorities of education, and 93% regarded interpretation of laboratory tests as the first priority of education. In minor groups, 70.2% considered self-driven learning as the must, but major groups mostly believed in formal education. In more specialized sections (minor), treatment decision and familiarity with the main diagnostic and therapeutical methods were ranked as the second priority. Medical ethics in health care was considered as one of the capabilities that was recognized by 30.4% of the faculty members as the second priority without having any specific pattern. The members of gynecology and pediatrics departments (81%) mostly believed in capabilities like prevention and coordination of care and counseling for general practitioners. Other capabilities like society's healthcare, nutritional status evaluation, care for job/environmental security of the people in society and regular promotion of healthcare systems with high percentages of 78.3%, 82.6%, 86.1%, 92.2% were selected as the second priority by the faculty members, respectively. However, capabilities like recognizing advanced diagnostic and therapeutical methods as well as elderly healthcare were considered as the third priority with 65.2% and 73%, respectively. The results of the questionnaire completed by the clinical faculty members at Kurdistan University of Medical Sciences on the main abilities of the general practitioners were determined and prioritized in terms of the importance in learning based on Must Learn, Better to Learn, and Nice to Learn criteria (Table 1).

According to these findings, abilities 1 to 8 were regarded as abilities that should to be taken into account as necessary skills for learning in the clinical apprenticeship program for medical students and should be taught in all cases. Abilities 9 to 12 were instances that should be taught in most cases. Abilities 13 to 17 were interesting to teach in some cases. Further, in the present study the learning style for skills in each course, location of learning, number of supervisions, modeling and performing each skill independently were determined for all major and minor sections.

Table 1. Classification of the main capabilities of the general practitioners in the clinical training program for medical students

No	Major abilities of GPs	Must (Group 1)	Better (Group 2)	Nice (Group 3)
1	Taking history and physical examination	×		
2	Diagnostic decision	×		
3	Patient referral skills	×		
4	Relationship with patients and colleagues	×		
5	Interpretation of laboratory tests	×		
6	Therapeutical decision	×		
7	Medical ethics in treatment and care	×		
8	Self-motivated and regular learning	×		
9	Prevention (screening, immunization, health promotion)		×	
10	Coordination of care and counseling		×	
11	Main diagnostic and treatment methods (procedures)		×	
12	Healthcare in society		×	
13	Nutrition evaluation and counseling			×
14	Job and environment security			×
15	Advanced diagnostic and therapeutic techniques			×
16	Caring for the elderly			×
17	Regular improvement of healthcare systems			×

Discussion

Nowadays, many attempts are made to reorganize educational institutions in order to provide better services, especially healthcare to the society (6). In order to reorganize, three important aspects should be taken into consideration; proper definition and correct understanding of the general practitioners, their role and related expectations as well as the opinions of the faculty members as the major force exerting changes. Thus, it seems necessary to define the major capabilities of the general practitioners for outcome-based education in one hand, and to enhance the understanding and knowledge of the medical educators with regard to the merits expected from general practitioners, on the other hand (7).

Presented model in this study designed to ensure and promote the quality of education and appropriateness of educational products, that is to say the students who possess sufficient abilities and potentials for providing proper service in the future working environment. Modifying the content with the major abilities expected from a general practitioner is one of the strengths of this model. This stage was completed by the viewpoint of the faculty members who have passed general and specialized medical courses and better recognize the needs based on the clinical and educational skills.

To determine the regular educational needs of the GPOs that worked in rural areas of Nepal, a study was conducted on 213 physicians that worked in both public and private sectors. The main priority of the learning essentials for these physicians was acute

midwifery, internal, pediatrics problems and trauma. These physicians reported a highly preferred need for skill-based courses. Most of the physicians tended to be directed and supported by the experts on the essentials of regular training (8). In the above study, the medical graduates were asked about the essentials of training, while in the present study the active faculty members were surveyed several times in this regard. Another difference between these two studies was in the training stage. In our study, the training essentials and logbook preparation were designed for the training period, whereas in Butiroverth's study (8) the essentials of regular training were analyzed after graduation. Taking a glance at the results of the present study on the capabilities expected from general physicians, it can be assumed that the general subjects of basic medical skills for the faculty members, that can lead to diagnosis, have been adequately explained, but regarding providing healthcare and skills that result in the promotion of society's health, no need is felt for education and the essentials are unacceptably unknown. So, it is urgent to take special measures in this regard and demonstrate the skills required for the faculty members.

With regard to the necessity of the presented issues in each section titled "essentials of learning", it seems that in general topics like signs and symptoms, diseases and partly skills, consensus is more easily reached in comparison with identification of risk factors, contents of attitudinal goals and the content revised by problem-based method.

Identification of risk factors, content of attitudinal goals and partly the content revised by problem-based educational method are domains that were mostly unknown to most of the faculty members and were

ambiguous in terms of applications, necessity and addressing (9, 10).

In a study conducted to investigate the opinion of the interns on the essentials of learning the major skills in an Australian university, 226 major and basic skills were divided into 5 sub skills of management of clinical status, clinical research, clinical procedures, main actions and becoming professional. According to their findings, the main needs of the interns included examination of ear, eye, nose and throat, managing the non-colleague patients and problem in relationship with patients, drug prescription and note taking on revival and death (5). The difference of this study with the present study was in terms of groups (intern versus faculty member) and limiting the needs to major skills instead of the skills required for training. It seems that assessment of learning needs from the viewpoint of interns can better determine the deficiencies of education, but the presence of a comprehensive program is more essential. The present study that investigated the educational needs from the viewpoint of the faculty members is partly similar to the study conducted by Hadley et al. (11) in which the newly-graduated specialists were surveyed about the learning essentials. However, in Hadley et al.'s study, all the aspects of education were not analyzed and only educational shortages were investigated. In the present study, there was an attempt to systematically consider most of the aspects and necessities related to the concerns of the faculty members along with the concerns of the educational system, and its experts and educational planners. Both aspects, however, were acceptably taken into account and analyzed.

The clinical subjects selected for the sections were also based on the topics recommended by the ministry of health. Classification of these problems according to the symptoms of the disease or the known disease provides the ground for determining more appropriate educational methods. The objectives of special learning are presented according to the written standard patterns as instances of some special clinical issues that can be considered as appropriate practical examples.

In this study, at least one section was defined as education management and exclusive respondent for each educational subheading in every educational domain via collecting all learning essentials in clinical sciences by experts (12, 13, 14). Therefore, it could promote the accountability culture from the planning level to a superior level and prevent laissez-faire education in the clinical domain to a great extent and create solidarity. This is an issue that has no similar example in the country, so it can be used as an

appropriate model in future by the ministry of health or other universities.

Determining the main locations of learning for every educational issue, in addition to being an appropriate guide for learning, made the classification of clinical problems possible for designing apprenticeship file (15). According to the principles taken from methodology books and presentation of classroom manual, a proper applicable format has been presented for the faculty members followed by the complete instructions for the systematic approach to patients as an appropriate method for the presentation of the materials focusing on problem-based learning (PBL) method. This instruction can be a suitable guide for the students and help group discussions and students' participation in the preparation of textbooks and teaching materials. The obtained results indicate the focus of the faculty members on the student's relationship with patient, active learning by the student, and PBL in which the newly-graduated specialists have also been weak (11).

As for the students' evaluation, focusing on evaluation during the course and caring for it based on a proper trend are strengths of this model (13, 16). In this regard, the apprenticeship file (case book) was used which included a documentary set of the clinical skills required for the students, in addition to a step by step guide for the students to achieve clinical skills. This method is considered as one of the best methods of evaluation recommended for the clinical issues (17). It should be pointed out that, given the importance of students' involvement in improving education, the students' views regarding the faculty members, teaching method, content and assessment are included in this category.

Limitations of the study:

Too much preoccupation from the part of the clinical faculty members, failure to achieve a high percentage of accountability in clinical departments, limited budget for research and minimizing the costs, few number of colleagues with many problems were limitations of this study.

Conclusion

In this model, the focus was on the content and teaching process. The findings of the present study in case of implementation can be used as an appropriate model in education in other universities, because it takes various aspects of education into account and is not limited to some special courses. In this model, the learning essentials of major and minor sections have been principally determined from the viewpoint of the

faculty members, although it seems necessary to pay attention to other issues such as motivational factors, and student research by designing parallel models.

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