

The Participants' viewpoint of continuing medical education courses of Shahr-Kord Medical University

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ABSTRACT

Background: Continuing education is one of the most effective methods to empower the employees for challenges they face on their jobs. Dramatic advances in medicine, rapid cultural and social changes, increasing cost of health care, development of diagnostic technology and a transition in the pattern of diseases, highlight the necessity of continuing education in all medical groups.

Purpose: To evaluate the effectiveness of continuing medical education (CME) programs in Shahr-Kord Medical University from 1996-2001.

Methods: This cross-sectional study is based on the questionnaires available in Continuing Education Office, which were filled by the participants in CME programs.

Results: In the past five years, 44 CME programs were conducted in this university (18 planned program programs, 13 seminars, 6 conferences, 5 workshops, and 2 symposiums). Symposiums and workshops were the most appreciated programs. Of 3357 participants, 1712 (50.9%) filled the questionnaire. Of these participants, 73% believed that CME programs have strengthened their previous knowledge, 64% noted that the contents of these programs were consistent with their job needs and 61% believed that CME programs have encouraged professional self-study. Despite the improvement of Shahr-Kord Medical University ranking among 8 peer universities, the participants' satisfaction had a declining trend.

Conclusion: Providing up-to-date scientific and practical information and considering adult learning theory, especially performing need assessment before conducting educational programs, will improve the quality of CME programs.

Keywords: CONTINUING MEDICAL EDUCATION, EVALUATION

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Introduction

Education in general and in-service education (continuing education) in particular is one of the most effective methods to empower the employees for challenges they face on their occupations. Proper education improves job satisfaction and prevents duplication of efforts effectively and can clear the way for service-providers to use their full capacity. If provided correctly, planned programally and organized, continuing education may solve most of the complicated administrative problems and prevent those risks that may be caused by old and out-of-date information (1, 2).

In the past fifty years, continuing education has drawn considerable attention. This is especially true in the field of medicine because even if academic education were sufficient, the information provided in the university could not

guarantee all necessary skills for a life-long professional clinical career, because the shelf life of information in the "information explosion era" is no more than ten years. Rapid cultural and technological changes, increasing cost of health care, development of diagnostic technology and a transition in the pattern of diseases have decreased the professional compliance for adaptation with these changes. Therefore, continuing medical education (CME) and active life-long learning (or adult education) is necessary for the maintenance and development of knowledge and skills (3, 4).

The assumed advantages of continuing education include reduction of learning time, service provision according to acceptable standards, qualitative and quantitative improvement of the outcomes, and meeting the consumers' requirements. Effectiveness and

efficiency are the two most important factors in management; and improvement of these two factors is certainly based on continuing education – this is especially important in health care system, which directly affects other service providing systems. Service providers in health care system will never be able to run the system effectively and efficiently unless they promote their knowledge and skills continuously. Nowadays, the education of manpower in health systems is not viewed as a transient and temporary subject anymore and CME has been accepted as a must and a principle (4).

An educational process can be called effective when the framework of and knowledge is built on the previous knowledge; and it will be efficient if it addresses the health problems of general population. That is why the conventional education is replaced by the problem-based approach. The acceptable approaches for continuing medical education has a wide range, from lecturing sessions to small group discussions and long-distance educational programs. More advanced technologies such as computer- or satellite-assisted education and interactive videodisks are also used for this purpose (5, 6).

An important point in CME is that the learners are adult and sometimes aged persons. Therefore the following principles should be kept in mind:

The adult learners are aware of their needs and interests and have a personal motivation for learning to fulfill those needs.

The adult learners want to find solutions for their real problems that they encounter in their personal life.

The adults' previous professional and personal experiences make a background that influences their future learning.

The adult learners find themselves responsible for their education and want to play a major role in defining the objectives of education.

The most efficient learning method is different for each person, based on his/her experience (7).

Evaluation is often considered as an external controlling measure, not a tool for individual control or for providing feedback for instructors and program designers. Cognitive, psychological and emotional aspects should be addressed in each evaluation program. Setting a clear relation between the educational program objectives, measurement techniques and evaluation results is necessary (8).

Evaluation of the success and achievements of a program requires a four-step process:

- **Step 1:** Evaluation of the opinions, perceptions and attitudes of the participants about continuing education. The information is usually gathered by a questionnaire during the program or immediately after its completion.

- **Step 2:** Measurement of emotional, cognitive and psychological changes. It is necessary to measure the knowledge that has been received, the skills that have been developed and the attitudes that have been modified and corrected.

- **Step 3:** Determining the extent to which their behaviors have been modified by the educational program. This step is difficult and complicated because evaluation of the clinician's performance or his/her relation with patients is not an easy task.

- **Step 4:** Evaluation of the ultimate effects of the program on the quality and quantity of health services. Assessment of prescriptions, health level of the population, and criteria such as reduction of the drug expense per capita are considered in this step.

The objective of Iran's Continuing Medical Education Act, legislated in 1996, was promoting the physicians' professional knowledge and skill, optimizing health and treatment services, and achieving efficient and ideal standards in medical education according to the requirements of the society (9). For the continuation of these efforts and developing a new proper and comprehensive program for next stages, it is necessary to evaluate the previous measures according to the present criteria. Since there was no comprehensive and planned program evaluation of the Continuing Education Office in Chaharmahal province, this research was performed to assess the performance of this Office and the quality of its educational programs (in the viewpoints of the participants), and to find strategies to improve their quality. Analyzing the participants' opinions in view of the program objectives will show the strengths and defects of the programs, which in turn would provide useful information for future policy-making and program design.

Materials and Methods

The study group in this cross-sectional descriptive study was the participants in CME programs held in Shahr-Kord Medical University.

The number of CME programs including seminars, conferences, workshops, and planned programs between 1996-2001, and also the number of male and female participants, the date and time-table of each program were collected from the documents of the Continuing Medical Education Office (CMEO) in order to determine its performance quantitatively.

At the end of each session, questionnaires – prepared by the Health Ministry educational directorate- were distributed among the participants and after completion, were kept in the Continuing Education Office. The questionnaires were designed to evaluate the quality of the programs based on the program objectives. After excluding the incomplete ones, the questionnaires from 43 re-education sessions were studied in this research.

Each questionnaire consisted of 13 questions, which were designed in 5-scale Likert style (very high, high, moderate, low, very low). These 13 subjects were as follows:

The program's effect in strengthening and enhancing previous knowledge

- 1- The program's effect in providing new scientific information
- 2- The consistency of the program's content with professional requirements
- 3- The program's ability in encouraging individual professional study
- 4- Reasonable sequence of the lectures
- 5- Time- content consistency of lectures
- 6- Participation of the audience in discussions
- 7- Management of the sessions
- 8- Suitable notification of the program in advance for the target group
- 9- The program's CME score
- 10- The usage of educational aids in the program
- 11- Appropriateness of program's time table
- 12- Convenience of physical facilities and access to the location

The questionnaires were categorized based on the type of the program. Each question received a code number and the mean score of each question was calculated by considering "very high" and "high" answers only. Data were analyzed with SPSS software using descriptive tests and Chi-Square test.

The audit scores for the CME programs in Shahr-Kord Medical University, which were announced by the Ministry of Health and Medical Education, were also included in the results.

Results

In the period of 1996-2001, 44 programs were conducted in Shahr-Kord Medical University including 18 planned program sessions, 13 seminars, 6 conferences, 5 workshops and 2 symposiums (Table 1).

Of 3357 participants in 43 CME programs, 1712 (50.9%) completed the questionnaire. Of the total number of 3357, 2525 were male and the rest were female. The mean number of male and female participants in each program was 58.27 ± 5.5 and 19.34 ± 1.9 respectively. There is a significant relation between the time of the program and the number of female participants, as the number increases from 1996 to 2001 ($p < 0.044$).

The time span of the programs was 1 to 9 days and the results show that with increasing time, the number of female participants decreases significantly ($p < 0.004$). Also, there is a significant association between the time span of the program and the participation of the audience in discussions ($p < 0.015$).

The participants' opinions on 13 afore-mentioned subjects are provided in Tables 2 and 3 according to the type of the program and its the time it was held (year). Comparing the mean score of each program type reveals that workshops and symposiums were more successful in satisfying the participants, while seminars and conferences had the least success in this regard. It should also be noted that overall, there is a declining trend in the participants' satisfaction from 1996 to 2001, as the mean score (based on "high" and "very high" answers) falls from 79.7% to 54.69% in this period.

According to the evaluations performed by the Central Office of Continuing Education in the Ministry of Health and Medical Education, the ranking of the Continuing Education Office of Shahr-Kord Medical University was improved among the 3rd group of medical universities (consisting of 8 universities) from 6 in 1997 to 3 in 2000 (Table 4).

Discussion

Active participation of the audience is one of the key factors determining the educational program outcomes. In our study, 57.24% of the participants expressed their involvement in the programs to be "high" or "very high". Reducing lecture-based

Table 1. Frequency distribution of CME programs from 1996 to 2001*Archive of SID*

	1996	1997	1998	1999	2000	2001	Total
Seminars	2	2	0	6	2	1	13
Workshops	0	0	0	1	4	0	5
Planned program	1	0	0	4	11	2	18
Conferences	0	1	1	1	2	1	6
Symposiums	0	0	0	0	2	0	2
Total	3	3	1	12	20	4	44

Table 2. The participants' opinion about the quality of CME programs by the type of the program (%)

Item Num.	Planned program	Seminar	Workshop	Conference	Symposium
1	69.66	73.17	90.60	57.83	92
2	59.09	63.67	95.4	56.76	96
3	58.27	59.66	91.4	60.21	98
4	60.22	49.07	94.64	49.65	92
5	59.72	55.06	91.80	57.55	77
6	55.88	60.93	91	55	79
7	62.77	48.64	69.76	43.08	92
8	67.94	66.80	82.08	59.46	87
9	57.16	50.48	93	48	92
10	60.22	40.73	86.14	38.88	84
11	58.33	56.86	86	58.08	90
12	64.38	69.14	74.18	62.96	94
13	65.38	75.89	82.14	69.03	46
Mean	61.39	56.92	86.69	55.11	86.07

Table 3. The participants' opinion about the quality of CME programs by the year the programs was conducted (%)

Item Num.	1996	1997	1998	1999	2000	2001	Mean
1	88	62	45.3	75.19	73.05	57.5	72.03
2	91	43.5	39.6	58.1	69.25	54	63.96
3	80	58.1	58	61.38	64.55	56	63.74
4	*	42.15	53	55.57	66.9	57.5	60.94
5	*	52.15	58	64.3	63.65	50	62.67
6	*	47.15	49	60.58	64.55	58.75	62
7	69	38.5	52	52.55	60.6	55.75	57.24
8	69.5	65.06	54	65.99	70.95	62.75	68.5
9	*	40.5	49	54.40	66.40	55	59.49
10	*	17.15	44	53	62.1	46.75	55.98
11	76.5	74.96	47	58.6	62.8	44.5	61.92
12	84	68.4	53	69	66.5	61.75	67.45
13	*	77.36	66.6	71.15	72.5	50.75	70.57
Mean	79.7	75	51.4	61.52	66.45	54.69	-

*, The item was not included in the questionnaire in 1996.

Table 4. Evaluation of the performance of Shahr-Kord Medical University Continuing Medical Education Office performed by the Central Office of Continuing Education

Year of Evaluation		1997	1998	1999	2000
Program Scientific Design	Need Assessment	-	-	-	-
	Implementation	3.25	3	15	15
	Evaluation	-	10.6	5	5
Number of Programs	Congress	0	0	0	0
	Seminar	1.5	0	4	1.5
	Planned program	0	0	3	4.5
	Workshop	0.8	1.4	3	3
	Conference	0.5	0.7	2	2
Activity of the Secretary	0	-	-	0.5	1
	1	-	0.3	0.5	0.5
	2	0.75	0.6	0.5	0.5
	3	0.5	0.8	0.5	0.5
Informing the Central Office		15	10	5	3.5
Total Score		22.30	28.4	42	36
Ranking		6	5	3	3

programs and providing the ground for more active role of participants according to the adult learning theory may increase the achievement of the educational objective by the student.

An overview of the satisfaction of the participants in CME programs in the past few years shows that although the number and diversity of the programs have increased and the ranking of Shahr-Kord Medical University has promoted (from 6 to 3), the quality of CME programs had a declining trend in the viewpoint of the participants. The satisfaction rate of only 54% in 2001 has a clear message for organizers and policy-makers and indicates the difference between the current situation and the expectations of the target group. Educational needs assessment is an inevitable prerequisite which may have a considerable effect on promoting the quality of re-education programs.

The kind of educational program is another factor in determining the satisfaction of the participants, as 98% announced that symposiums were consistent with their professional requirements while only 58.27% had the same opinion about planned program programs. In another study conducted in Western Azerbaijan province, 79.54% of the participants found workshops to be the most favorable educational program (10, 11). One of the possible reasons for this difference is that symposiums and workshops are designed and coordinated in a higher level and by more experienced staff. "National Symposium

on Genetics" and "National Symposium on Crimean-Congo Fever" were the two symposiums held in Shahr-Kord Medical University. The former was the first national meeting on the subject and was most appreciated by the participants because of the subject and the scientific expertise of the lecturers. Also, the first cases of Crimean-Congo hemorrhagic fever in Iran were seen in Shahr-Kord and the participants' professional interest and sensitivity made the second symposium very desirable for almost all of them.

In Babol Medical University, the subjects of educational programs were consistent with the participants' professional needs in the viewpoint of 68% of them (12). Of GPs working in Tehran 73% found the presented subjects to be consistent with their needs. These studies showed that in the 5-year period of 1996-2001, addressing the target group's viewpoints improved the consistency of the programs. This is especially true when members of the target group are among the managers or providers of the educational program (2).

In another study conducted in Isfahan Medical University of Medical Sciences and Health Services to evaluate CME program during a five-year period, 80% of medical graduates emphasized on opinion polling before conducting the programs (14). Considering the changes in the attitude of the target group and also in the overall attitude toward the professional responsibilities of a physician, a

review in the content and method of the CME programs seems to be necessary.

The results of another study performed by CMEO of Isfahan Medical University showed that 83% of medical graduates would attend the CME programs even if these programs did not have any educational score for the participants (15). This point was not considered in our study but it can help to understand the attitude of the target groups.

The results implied that CME programs are relatively successful in meeting the physicians' expectation; however, considering the dramatic developments in medicine, the instructors in CME programs should be aware of the difference of CME and conventional academic programs. The main reason is that professional re-education programs are aimed to educate adults. Therefore, the instructors should pass specific courses on effective teaching methods in CME programs. These courses are carried out in more developed countries (1).

Adult learning is to a great extent a spontaneous, self-directed, and self-evaluative process (14). Therefore, utilization of self-educating methods not only enforces the active participation of the target group, but also provides the opportunity to achieve the objectives of the program in a broader scope.

Special attention should be paid to the characteristics of the learners in CME programs. The adults who want to improve their capabilities and performance often need assistance in obtaining certain skills such as independent study, determination of learning objectives, using educational aids and self-evaluation. These skills are necessary for everyone who wishes to be up-to-date in health related issues.

The use of self-evaluation methods in order to identify the present limitations and drawbacks in clinical performance and scientific knowledge of the target group may lead to the improvement of the current situation. Moreover, an evaluation system that could evaluate the input (learner, instructor, facilities), process, methods, designs, and results of a CME program is especially necessary. This is the only way to provide the essential information and experience for preparing the best educational program. However, each program will no doubt need continuous review and reform (16).

The recollection of only 50% of the questionnaires from the participants in Shar-Kord CME programs reflects the lack of interest and

motivate in the medical society to participate in such researches. This fact shows that in addition to performing studies, efforts should be made to increase the sense of cooperation and accountability among this group. Follow up and providing feedback to the medical society seems to be necessary in this regard.

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