

Assessment of medical education quality in Tehran University of Medical Sciences and Health services

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Received: November, 2005

Accepted: March, 2005

Abstract

Background. Teaching assessment is a process of collecting and analyzing data in order to make a judgment on merits and limitations of a teaching program. Thus, assessment would be an important and practical instrument to improve teaching quality.

Purpose. The main objective of the research is quality improvement of medical education, and specific objectives are set as study of output factors of the educational system, management of educational planning, trainees (students, staggers, interns and residents), faculty members, educational facilities and equipment, educational environments and graduates' satisfaction.

Methods. This study was designed as a cross sectional and an analytical descriptive survey. Research and development method as well as survey research have been used in this study.

Results. Of all graduated general practitioners, 82% were male and 18% were female. The course average score was between 15 and 16 for 48.1% of the subject graduates. Of graduated GPs, 38.1% consider the basic sciences courses as the strength points in their studies, and 60.8% consider internship course as a weak period in their education.

Conclusion. Of all graduated GPs, 81% were satisfied with their education in the School of Medicine.

Keywords. ASSESSMENT, MEDICAL EDUCATION, TOTAL QUALITY MANAGEMENT (TQM)

Journal of Medical Education Spring 2005; 7(1);42-46

Introduction

Educational evaluation of data collection and analysis is used for judging about capabilities and shortages of an educational program (1). Evaluation is an important tool for improving educational quality (2). The quality of educational system connects to some features, which are recognized, socially, as its perfect activities of the system (3). By setting educational activities, we can begin the total quality management in a university system (4). Setting these objectives are not that easy and

the faculty should make a good connection to the medical society and profession (5). In this regard, expectations of medical profession from graduates should be clarified (6). What are the needs of the society in the filed of health care and what the society expects from medical graduates? (7)

These objectives define the framework of total quality management (8). Evaluation of the quality of educational programs is, in fact, a feedback of how educational process is performed in various stages (9). Based on its results, materialization of preset goals could be evaluated (10).

Teaching is a bilateral process, so, trainer and trainee interact with each other within the process (11). The trainee receives feedback from the trainer through educational evaluation (12).

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On the other hand, educational system takes advantage of evaluation of educational quality for receiving feedback and evaluation of curriculum success in order to clarify the level of achievement of or deviation from final objectives of educational program (13).

To do this, Medical Education Research & Development Center of Tehran University of Medical Sciences and Health Services has attempted to evaluate the educational quality in the School of Medicine (14). In her study, Farzianpour showed that 39.7% of the problems of graduated GPs were related to the theoretical courses and 40.7% to the clinical courses (14). The results of this research in Tehran University of Medical Sciences showed that the most important advantages of study plan are:

- Revision and change in educational system;
- Revision and change in teaching methodology;
- Updating educational strategies;
- Training physicians in accordance with the needs of society; and
- Skill lab development.
- Farzianpour et al concluded that in the viewpoint of the graduated GPs, the most important part of quality improvement of teaching is:
- Setting a regular plan for clerkship and internship education;
- More supervision over the performance of clinical centers;
- Updating examination questions with due regard to comprehensive educational need which possesses global credibility (such as USMLE);
- Paying more attention to the increasing number of unemployed graduates; and
- Providing suitable pavilions in hospitals (14).

Bazargan from Tehran University has a positive attitude toward quality assessment in medical education (15). In Dundee University, Harden et al found that most of faculty members have a positive attitude toward assessment of quality improvement in curriculum development (16). In order to achieve a comprehensive view toward the quality of medical education in Tehran University of Medical Sciences and Health

Services, we decided to study the quality of output factors of the educational system, management of educational planning, trainees (students, stagers, interns and residents), faculty members, educational facilities and equipment, educational environments and graduates' satisfaction.

Materials & Methods

This Study was designed as a cross-sectional analytical descriptive survey. Research and development method as well as survey research have been used in this study. Questionnaires were used as the data collecting tool, which included collected statements, closed and opened type questions, and multiple choice questions. All statements of questionnaires were developed and standardized for validity and reliability on the basis of the latest resources and educational evaluation sources (17, 18).

The assessment of medical education quality was performed in 9 steps, based on "process promotion strategy" of FOCUS-PDCA model by Edward Deming (19). In this survey, principles of total quality management have been used as an effective strategy, which needs a special instrument to implement "change" in teaching system.

Research model will be virtually proved to be effective if it can achieve the following:

1. To find a process to improve the quality of medical education;
2. To organize a team that knows the process;
3. To clarify current knowledge of the process;
4. To understand causes of the process variation;
5. To select a part of for the process improvement;
6. To plan the improvement;
7. To do the plan;
8. To check the program based on results; and
9. To act based on the achievements.

In data collection, it is attempted to define the variables under study according to the study objectives and related research questions. Therefore, a table was developed before preparing the data collecting tools, which exactly specified each one of the related research

questions. On that basis, the tools were developed.

Then, to achieve an appropriately valid data collecting tool, basic and clinical science experts and faculty members reviewed compiled questionnaires. The main requirement for a questionnaire to be valid is to provide correctly expressed questions whose uncertainties are minimized as much as possible. Content validity refers to whether any specific question can cover scientifically important aspects of the research objective or not. In order to obtain scientific validity for questionnaires, content validity method was used. The questions were developed through text study and present research collections (17-18).

Statistical tests and parameters including descriptive data, abundant collections, abundant tables, percentages, X^2 , regressions and variance analysis were used to analyze data. Fax program was used for data entry and editing in the computer. All data were analyzed using SPSS software Ver. 9.10. HG-3 software was used to provide and design the graphs. The research results were quantified by appropriate calculation formulations and then compared with each other. In order to compare data in each case, ANOVA and X^2 methods were used.

Results

Of 189 graduated general practitioners, 155 (82.01%) were male and 34 (17.99%) were female. The average course score for 92 subject graduates (48.68%) was between 15 and 16. Of all graduates, 153 (80.95%) were satisfied with their education in the School of Medicine. Seventy-two graduated GPs (38.09%) consider the basic sciences course as the strength point in their studies, and 115 (60.85%) consider the internship as a weak period in their education. Traditional teaching methods used by the instructors concerned 161 (85.18%) graduates, and 117 (61.90%) had faced shortage or lack of educational-aid facilities. Of all expressed problems, 39.7% were related to the theoretical courses and 40.7% to the clinical courses. In general, most problems were related to some

educational departments, clerkship course, internship course, welfare issues, teaching-aid instruments and traditional teaching methods used by some instructors (Tables 1, 2, 3 & Fig).

Discussion

This study was aimed to assess the medical education quality in order to improve the quality of educational programs. As the results show, this study is compatible with that conducted in Tehran University of Medical Sciences, which revealed the same result (3).

Evaluation of educational quality of graduates is one the most important factors in promoting research and educational level of each faculty (3-4). Strength and weakness points of a faculty are clarified in educational evaluation and substitute a base for future planning and lead to defect finding and supporting strength points (5, 6). Moreover, continuing educational supervision and evaluation of a faculty on its subordinates cause motivation and dynamic as well as fostering research and educational in order to achieve determined objectives of the faculty (7, 8).

The United States of America has possessed, since previous years, educational evaluation system as well as credit rating of higher education (20). Educational evaluation in this country has been done by evaluating students, professors, patients and social satisfaction by non-governmental institutes, on regular and timely basis (21). The educational quality of universities has been studied and promotion has achieved by benefiting from the findings (21).

In European countries, evaluation of educational system has been done since 1980s. Finland, the Netherlands, France, Germany and UK are among the most active European countries in this regard. Some other European countries such as Sweden, Denmark, Spain as well as Romania have attempted in this field (21-22).

Among Asian countries, some have seriously attempted in evaluation of their higher education system, of which, Japan, Hong Kong and South Korea could be named (23).

Evaluation is usually done voluntarily. The

organization in charge of evaluation makes forms and directives available for the educational institutes. After evaluation, a commission, sent by the organization in charge of evaluation, visits the educational institute and provides final report based on the report of research or educational institute (22- 23).

In previous years, educational evaluation and credit rating of universities and higher education institutes have been brought about in our country and some attempts have been done by Supreme Council of Cultural Revolution, Ministry of Sciences, and Ministry of Health and some delegations have also been sent to different universities for problem findings (24).

Therefore, considering the duties and objectives of Tehran University of Medical Sciences, evaluation of this university should be done as soon as possible, in order to reach a specific outlook of this university in national and international level. On the basis of such evaluation, a more accurate planning could be done for the promotion of the University, and finally, for its development in the national level.

Table 1. Frequency distribution of the subject graduates' opinion about their important educational strength points, in December 2000

Course	Yes		No	
	N.	%	N.	%
Basic sciences	72	38.1	117	61.9
Physiopathology	40	21.2	149	78.8
Clerkship	61	32.3	128	67.7
Internship	42	22.2	147	77.8

N= 189

Table 2. Frequency distribution of the subject graduates' opinion about their weakest points in education, in December 2000

Course	Yes		No	
	N.	%	N.	%
Basic sciences	44	23.3	145	76.7
Physiopathology	38	20.1	151	79.9
Clerkship	41	21.7	148	78.3
Internship	115	60.8	74	39.2

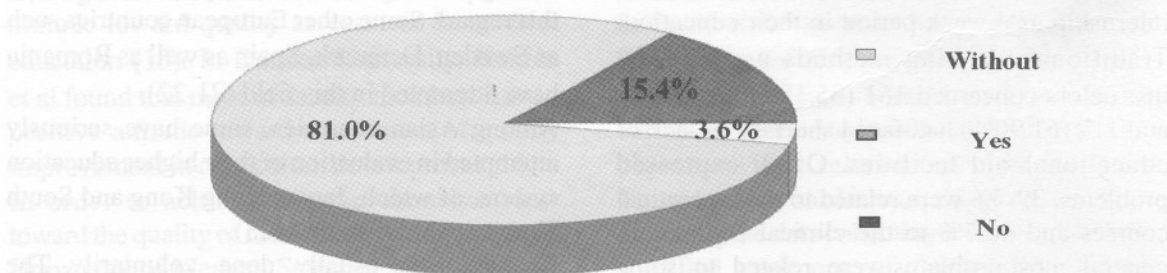
N= 189

Table 3. Frequency Distribution of the subject Graduates' problems with evaluation method of clinical courses, in December 2000

Title	Yes		No		Yes	
	N.	%	N.	%	N.	%
In relation with curriculum	105	55.6	41	21.7	43	22.8
In relation with teaching methodology	110	85.2	38	20.1	41	21.7
In relation with evaluation method of theoretical courses	75	39.7	70	37	44	23.3
In relation with evaluation method of clinical courses	77	40.7	60	31.7	52	27.5
Educational treatment duties in wards	106	56.1	40	21.2	43	22.8
Educational-aid tools	117	61.9	33	17.5	39	20.6
Welfare issues	99	52.4	46	24.3	44	23.3

N= 189

Fig. Frequency distribution of the subject graduates' satisfaction, in December 2000



Acknowledgement:

The authors are grateful to the associate editors Dr. Peiyrovi, Dr. Yadegarinia, Dr. Yazdani and Dr. Hosseinzadeh in Shaheed Beheshti University of Medical Sciences & Health Services.

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