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Evaluating the Trend in Assessment Score of the Faculty Members at Basic Sciences Courses, School of Medicine, Mashhad, (1392- 1394Hejri shamsi, 2013-2015)

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Abstract

Background: A comprehensive and valid assessment system along with continuous assessing of this system are required to assign actual score to the faculty members' educational performance which is essential for any planning to improve the quality of teaching.
Objectives: This study aims to determine the trend in outcomes of assessing the faculty members of School of Medicine in Mashhad during a three- year period.
Methods: The present descriptive study aims to evaluate the trend in assessment score changes of the faculty members of School of Medicine in six academic semesters. The population under study was all the faculty members of School of Medicine in Mashhad, who were selected based on the census. The questionnaire on the survey system was used to collect data. Descriptive indicator and repeated measures ANOVA were used for frequent assessments.The data were analyzed by SPSS software (ver.11.5).
Results: Mean and standard deviation of the faculty members' assessment scores in each academic semester were reported as follows: the first semester of 92(83.66±6.15), the second semester of 92(84.45±5.92), the first semester of 93(84.84±6.03),the second semester of 93 (84.47±6.65), the first semester of 94 (85.79±5.67), the second semester of 94 (85.49±5.05). The results showed there was no significant difference between the faculty members' assessment scores and their academic ranking, sex, promotion as well as lack of promotion during the years 1392- 1394. Meanwhile, it was revealed Doctor of Medicine degree or lack of it did not have any influence on rate of changes in assessment scores.
Conclusion: Attempts to empower the faculty members in terms of education and teaching skills as well as apply appropriate tools and methods of assessment may relieve the monotony of assessment scores.

Keywords: Assessment, Education, Evaluation, Faculty Members

1. Background

Faculty members of the Universities of Medical Sciences in Iran are recognized as the key elements in education, research and health services as they could lead the students to lofty goals or deprive them of these goals through the right combination of the educational system elements (1).Therefore, the best way to improve quality control in medical education system includes evaluation of the faculty members' performance in order to a) improve methods and educational activities, b) help directors make rational decisions on employing the faculty members, c) promote the faculty members, and d) promote teaching as a profession (2). Assessment is defined asthe systematic investigation of a topic in order to discover a way for program improvement and efficacy by applying appropriate, ethical and accurate methods (3). Assessment of the faculty members by students is regarded as an effective strategy to improve educational quality by universities, sothese members have to meet some eligibility criteria and their performance is assessed by a codified process. The purpose of this assessment is improving the teaching method and enhancing its effectiveness (4). In addition, assessment of the faculty members is carried out to determine their success rate in achieving the educational goals, so that gathering information about the faculty members' educational activities as well as using the appropriate criteria to compare the gathered information, in this regard, is essential to specify rate of their access to the predetermined objectives (5). Saif in his book entitled "Educational Measurement, Assessment and Evaluation" pointed out to assessment of the faculty members as the most complicated types due to the lack of valid and accurate means and methods of assessment. He also believes the employed methods, assessment methods and information resources could not provide useful and unbiased information. Accordingly, he suggests combination of the assessed information for final judgment (6). Methods employed for assessment of the faculty members vary depending on the objective and criteria of the assessment. However, different assessment methods are required to carry out a proper and reliable evaluation of the faculty members. In the early twentieth century, Washington University for the first time created an assessment form and asked the students to evaluate their faculty members (7). Nowadays evaluating the faculty members' educational activities is carried out using over a

thousand various questionnaires (8). Just like other universities of the world, different assessment methods are used in the universities of Iran and many students annually evaluate their faculty membersby survey questionnaires. Student evaluation of teaching has been considered as one of the most important tangible sources of assessment by the world's most prestigious universities (9,10). However, these assessments have not always been accepted easily; and some faculty members, directors as well as students have often claimed that these assessments are reliable and valid, and some others claimed that they are not (11). Assessment of the faculty members by students has been recognized as one of the best types of evaluation by some researchers since they believe it is the student who receives training from the professor; therefore, evaluation of the faculty members' educational activity should be preferably carried out by the student. But, by contrast, some other researchers believe students are not mature enough to judge on education, they are not familiar with the concept of teaching and learning, and they are simply tricked by an attractive showing or getting a good grade (12). Generally despite disagreements among the researchers, review of the research findings has shown that chancellors and authorities of most of the world's institutions of higher education have particular regard to assessment of the faculty members by students as a reliable source of assessment. Meanwhile, they increasingly use these assessments to make decision on effectiveness of training, improving the quality of faculty members' teaching as well as their employment (13,14). But, by contrast, some of the faculty members of the universities have scruple about assessment of the faculty members by students; they believe these types of assessments may limit their freedom to teach and somehow, move them into a lower- level position than their students, and that it will lead to loss of motivation and lack of seriousness in faculty members, students' underachievement, and finally decline in the quality of education in the universities (15). Due to major challenges in assessment of the faculty members by students during the recent years, many studies carried out inside and outside the country have investigated results of these assessments from different aspects and attempted to specify other related aspects through detailed examination and evaluating the documents. An extensive review study on assessment of the faculty members by students revealed that there is a relation between the reliability of the assessment results and number of the students, that is, the more the number of students, the more the reliability of the results; therefore, the results will be reliable when the number of students in a classroom is over 30 (16). Another comprehensive study carried out in the University of Idaho on evaluating the role of various factors affecting assessment of the faculty members by students indicated although these assessments suggest more the students' satisfaction rather than their level of learning, they have the adequate reliability (17). According to the study conducted at Iran University of Medical Sciences, no significant differences were observed in the mean scores of the faculty members' assessment, comparing the results over the years (18). Meanwhile, results of the study carried out at Shahrekord University of Medical Sciences showed relative reliability of assessments of the faculty members by students through evaluating mean of the assessment scores in three consecutive half-years (19). Evaluating the education system of more than 600 colleges, Saldin revealed application of the assessments carried out by students is increasing, and that it was increased from 29% to 68% in 1973 and it is now reached up to 86% in all the universities under study, while not so much growth has not yet been observed in other assessment methods (20). Regarding the importance of assessments carried out by students, it is necessary to evaluate the results from different aspects and study the trend in assessment score changes of the faculty members in order to answer the following questions: Is there any changes in assessment of the faculty members during different years?, Is there a correlation in the assessment scores of the faculty members during different years?, Is there any differences between the trends in assessment scores of male and female faculty members?, Is there any differences between assessment scores of the faculty members who had been promoted in terms of academic ranking and those without promotion?

2. Objectives

This study aims to determine the trend in assessment score changes of the faculty members teaching Basic Sciences, School of Medicine, Mashhad during a three- year period.

3. Methods

At the end of each semester,medical students of Mashhad University of Medical Sciences at Basic Sciences course are asked to evaluate the faculty members through the survey system. This assessment is carried out based on the lessons taught during each academic semester, and each student is just allowed to evaluate those faculty members who were involved in giving lesson to him. The assessment tools are the questionnaires on survey system which their reliability and validity have been approved by the specialists and scholars working in the fields of assessment and evaluation at Mashhad University of Medical Sciences. The

population under study includes all the faculty members teaching at Basic Sciences course during six semesters from 2013-2015. Referring to the survey system and receiving reports of each faculty member's evaluation, the assessment scores for each lesson were entered into Excel according to the evaluation areas (education, morality, discipline, classroom management) and each semester.The mean scores of all the lessons in each semester were separately calculated for each faculty member, and the gathered data was analyzed using SPSS (11.5). Central statistical indicator, dispersion indicator (mean and standard deviation) and frequency statistics were used for describing the data.Repeated measurement test were used in order to specify whether assessment scores of the faculty members by students have changed during these six semesters or not.

4. Results

All 93 faculty members who were teaching at basic sciences courses at Mashhad University of Medical Sciences were included in this study. 80.6% of them were male and 19.4 % female, and the mean age was 0.56.The population under study was classified into educator (11.8), assistant professor (44.1), associate professor (0.28) and full professor (16.1) in terms of academic degree. Meanwhile, of 93 members 46.2% had been promoted to a higher degree while 53.8% had not. 80.6% of the population had Ph.D while 19.4% had both Ph.D and MD. Regarding the data analyzed based on central statistical and dispersion indicators and also repeated measurement test, it was revealed that there was no significant difference in assessment scores of the faculty members teaching at basic sciences courses from 1392 to 1394 (f= 1.85, df=4.62, sig= 1.09) (Table 1).

In addition to the aforementioned overall results, the comparison based on the faculty members' academic ranking during the six semesters (1392-1394) (table 2) showed no significant difference in assessment scores of the faculty members with various academic ranking (educator, assistant professor, associate professor and full professor) during theses six semesters (f= 1.19, df=3, sig=0.32).

Meanwhile, evaluating mean of the faculty members' assessment scores based on the sex during the years 1392-1394 (table 3) showed no significant difference between the mean scores of males and females. According to the results, assessment scores of the faculty members during these three years were relatively consistent (f=1.25, df=1, sig=0.26).

Gaining the score required to improve the quality of education has been considered as one of the criteria for promotion of the faculty members. This may be regarded as an effective factor to improve the quality of education for the members who are about gaining promotion. However, concerning the obtained results (Table 4) and applying test of significance, no difference was reported between assessment scores of the faculty members who had been promoted and those without promotion. In other words, the faculty members' promotion had no effect on their assessment scores (f=0.27, df=1, sig=0.60).

Moreover, results of table 5 showed no significant difference between mean scores of the faculty members who had both Ph.D and MD and those who had merely PhD. In other words, MD degree had no effect on score increase or decrease during these three years (f=0.55, df=1, sig=0.55).

Table 1. Mean and SD of the faculty members' assessment scores from 1392 to 1394

	1st semester 1392		2nd semester1392		1st semester 1393		2nd semester1393		1st semester 1394		2nd semester1394	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Faculty members	83.66	6.15	84.45	5.92	84.84	6.03	84.47	6.65	85.79	5.67	85.49	5.05

Table 2. Mean and SD of the faculty members' assessment scores based on academic ranking

Scientific ranking	1st semester 1392		2nd semester1392		1st semester 1393		2nd semester1393		1st semester 1394		2nd semester1394	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Educator	82.18	5.24	84.73	3.95	82.27	6.74	83.41	4.61	85.19	3.38	84.21	4.62
Assistant Professor	83.95	6.10	83.41	7.06	86.62	5.32	84.47	5.55	85.58	6.23	86.04	4.09
Associate Professor	85.26	5.19	86.25	4.43	85.38	6.01	85.69	9.00	86.24	6.45	86.22	5.02
Full Professor	80.50	8.45	82.43	7.12	81.54	5.83	83.94	4.31	85.82	4.59	83.56	7.49

Table 3. Mean and SD of all the faculty members' assessment scores based on sex

Sex	1st semester 1392		2nd semester1392		1st semester 1393		2nd semester1393		1st semester 1394		2nd semester1394	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Male	83.66	6.35	84.65	5.28	84.80	6.06	85.43	4.59	86.39	5.23	85.58	5.13
Female	83.68	5.21	83.42	8.87	85.08	6.15	80.66	12.71	82.64	7.10	84.96	4.87

Table 4. Mean and SD of the faculty members' assessment scores based on the promotion of academic ranking

Promotion of academic ranking	1st semester 1392		2nd semester1392		1st semester 1393		2nd semester1393		1st semester 1394		2nd semester1394	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
With promotion	83.47	5.95	84.13	6.32	84.80	6.12	84.08	5.57	85.08	5.87	85.28	4.43
Without promotion	83.80	6.36	84.68	5.70	84.87	6.05	85.09	7.36	86.29	5.56	85.63	5.51

Table 5. Mean and SD of the faculty members' assessment scores based on academic degree

Academic degree	1st semester 1392		2nd semester1392		1st semester 1393		2nd semester1393		1st semester 1394		2nd semester1394	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Ph.D	83.16	6.18	84.03	6.16	84.89	5.95	84.03	7.07	85.61	5.40	85.87	4.98
Ph.D/ MD	85.42	5.90	85.93	4.88	84.66	6.54	86.91	4.40	86.41	6.74	84.16	5.27

5. Discussion

Regarding the results of the current study, no statistically significant difference was reported in assessment scores of all the faculty members teaching at basic sciences courses at Mashhad Medical School from 1392 to 1394 (six semesters), that is to say, the faculty members' assessment scores were relatively consistent during this period. Meanwhile, the same results were observed in the mean scores of the faculty members based on their academic ranking. In other words, no significant difference was reported in assessment scores of the faculty members with various academic ranking (educator, assistant professor, associate professor and full professor) during these six semesters. In addition, other variables such as sex, promotion and MD degree had no effect on the mean score of the faculty members during these three years. So, it implies that the monitoring and evaluation process should be improved. The feedback loop is necessary for evaluation and it should be considered in all the evaluation process, the evaluation without feedback is not completed.It is suggested that academic degree must influence on the evaluation score but it did not observed in this study, maybe it remindes us the motivation decrease in education requires serious attention. Results of the current study are consistent with results of the study,"Ten-year Trends in faculty Members' Evaluation Results in Jondi Shapour University of Medical Sciences", carried out by Shakornia et al. However, the results of their study showed no significant difference in mean of the faculty members' assessment scores during the years 1375- 1384, and also no significant difference was observed in the mean scores in terms of sex (21). Using International Assessment System- IAS, the same study conducted on 2800 faculty members teaching in 23000 classrooms in Washington in 2000 during a five- year period (1995- 1999). The results showed relative consistency in assessment scores (22).

The main limitation of this study was the ethical consideration, that we should be noticed to publish data not individually and instead we must publish it in a collective way to keep the confidentiality.

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Authors' contributions

A H and M DM actively participated in all parts of this study.

Conflicts of interest

There is no conflict of interest to report.

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