

ORIGINAL ARTICLE

# Effects of Workshops on Knowledge and Attitude of Medical Sciences Teachers from Assessment Methods

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**Keywords:** Knowledge, Attitude, Assessment methods, Workshops.

## ABSTRACT

**Introduction:** Workshops are useful for promotion of knowledge and attitude especially in postgraduates and teachers. The objective of this study was to determine the effects of workshops on knowledge and attitude of medical sciences teachers from assessment methods.

**Methods:** This semi-experimental study was conducted in Mashhad University of Medical Sciences, Mashhad, Iran in 2014 using workshops and essay and multiple-choice exams, the pre and post-test, before and after the workshops. Assessment methods were discussed in the workshops for medical sciences teachers. Knowledge and attitude grades were analyzed by SPSS 16, mean,

standard deviation, paired *t*-test with  $P < 0.05$ .

**Results:** The total grade of knowledge of medical sciences teachers from assessment methods was  $80.11 \pm 8.48$  before the workshops and  $97.00 \pm 1.41$  after the workshops with  $t = -1.000$  and  $P < 0.001$ , which had significant difference. The total grade of attitude of medical sciences teachers from assessment methods was  $70.00 \pm 4.24$  before workshops and  $82.00 \pm 2.12$  after workshops with  $t = 1.000$  and  $P < 0.001$ , of significant difference too.

**Conclusion:** According to the grades, workshops was useful for promotion of medical sciences teachers' knowledge and changing the attitude about the assessment methods. *JOURNAL OF IRANIAN CLINICAL RESEARCH* 2016;2(1):163-167

## INTRODUCTION

Assessment methods are the main part of education. Some teachers continued their teaching by getting the exams during the term [1-3]. Assessment methods in medical sciences are different, some of them were used for theoretical and some of them for practical and clinical lessons [4, 5]. Medical sciences teachers should use course plans and lesson plans those were concluded assessment methods [6-8].

According to the curriculum of medical sciences, teachers can use essay that was the old one, short answer questions, modified essay that had the accurate grading, multiple choice questions that need the careful attention for making and designing, extended matching item that is a new one and in some situations is better than

multiple choice question, right/wrong, and matching [9-11].

Some of the assessment methods are new and measure the practice such as objective structured clinical examination (OSCE), but some of them such as directly observed procedural skills (DOPS), mini-clinical evaluation exercise (mini-CEX), chart stimulated recall oral examination (CSR) measure the practical educational aims and objectives and 360° measure the morality and behavior [1,12,13].

Assessment methods must be chosen according to the educational objectives. If teachers take the correct exam, students' knowledge will be promoted [14, 15]. If the medical sciences teachers' knowledge and attitude promote, they will teach better and will take the accurate exams from students [16, 17].

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In other studies, the effect of knowledge and attitude and promotional methods of them were demonstrated [18-21]. These studies have worked on physicians, teacher, nurses [22-24], students [25] and others had studied on patients' knowledge and attitude [26, 27].

In this study, the author tried to find the effectiveness of workshops on medical sciences teachers' knowledge and attitude about the assessment methods.

## MATERIALS AND METHODS

This semi-experimental study was conducted in Mashhad University of Medical Sciences, Mashhad, Iran in 2014 using workshops and essay and multiple-choice exams, the pre and post-test, before and after the workshops. Medical sciences teachers had participated in the assessment workshops.

Assessment methods were discussed with lectures and presentation of power point and work in the workshops. At each session before and after that, medical sciences teachers filled the questionnaire about assessment methods.

The questionnaire was a test with questions in essay and multiple choice about the assessment methods in the fields of knowledge and attitude's teachers. It had three parts: part one was demographic, part two was knowledge about the assessment methods and part tree was attitude about the assessment methods.

These assessment methods were some old one, modified and new methods in medical sciences education. There were essay, short answer, modified essay, multiple choice questions, extended matching items, right/wrong, matching, 360°, directly observed procedural

skills (DOPS), mini- clinical evaluation exercise (mini-CEX), chart stimulated recall oral examination (CSR), objective structured clinical examination ( OSCE). Questionnaire had two special parts one for knowledge and one for attitude about all of them. Total grades in each part were 100 scores.

Both of tests were at the same level and prepared by teachers' opinions for correction and validity and there had a pilot study with correlation of 0.84 for assigning the reliability in a sample of faculties.

The inclusion criteria was the medical sciences teachers and exclusion criteria was the medical sciences teachers who had participated in the same workshops previously.

Data were analyzed using SPSS 16 (Chicago, IL, USA).  $P < 0.05$  was considered for significant interpretation.

For research ethics, the researcher got oral satisfaction from participants and told that cumulative data were used and the names of the participants were kept confidential.

## RESULTS

Before the workshops, total grade of knowledge of medical sciences teachers from assessment methods was  $80.11 \pm 8.48$  and  $97.00 \pm 1.41$  after the workshops with  $t = -1.000$  and  $P < 0.001$  which had significant difference. Knowledge of medical sciences teachers in the specific topics; extended matching items, Modified essay, mini-CEX, DOPS, 360°, CSR and OSCE had significant differences and promoted after the workshops. Table 1 shows the comparison of knowledge grades in assessment methods before and after of workshops.

**Table 1.**

The comparison of knowledge grades in assessment methods before and after of workshops ( $P < 0.05$ )

Number	Assessment Method	Grade of knowledge before the workshop	Grade of knowledge after the workshop	Paired t- test	P value
1	Essay	9.00±0.00	9.00±0.00	-	-
2	Short answer	8.50±0.70	9.00±0.00	-1.000	0.500
3	Modified essay	3.50±0.70	8.50±0.707	-	<0.001
4	Multiple choice	9.00±0.00	9.00±0.00	-	-
5	Extended matching	6.50±2.12	8.50±0.707	-1.000	<0.001
6	Right/wrong	9.20±0.34	9.50±0.15	-	-
7	Matching	9.00±0.32	9.10±0.65	-	-
8	360°	8.00±1.41	9.00±0.21	-1.000	0.044
9	DOPS	8.00±1.514	9.00±0.11	-1.000	0.030
10	Mini-CEX	8.00±1.464	9.00±0.12	-1.000	0.046
11	CSR	8.00±1.42	9.00±0.10	-1.000	0.033
12	OSCE	8.50±0.70	9.00±0.00	-1.000	0.048

Before the workshops, the total grade of attitude of medical sciences teachers from assessment methods was  $70.00 \pm 4.24$  and  $82.00 \pm 2.12$  after the workshops with  $t = 1.000$  and  $P < 0.001$  that had significant difference. Attitude of medical sciences teachers in the specific topics of

multiple choice questions, right / wrong and CSR had significant difference and changed after the workshops.

Table 2 shows the comparison of attitude grades in assessment methods before and after of workshops.

**Table 2.** The comparison of attitude grades in assessment methods before and after of workshops ( $P < 0.05$ )

Number	Assessment Method	Grade of attitude before the workshop	Grade of attitude after the workshop	Paired <i>t</i> -test	<i>P</i> value
1	Essay	$6.00 \pm 1.41$	$6.00 \pm 1.414$	-	-
2	Short answer	$7.00 \pm 0.00$	$8.00 \pm 0.00$	-	-
3	Modified essay	$3.50 \pm 4.94$	$4.01 \pm 0.31$	-1.286	0.421
4	Multiple choice	$2.50 \pm 2.12$	$5.50 \pm 0.70$	1.000	<0.001
5	Extended matching	$6.00 \pm 0$	$6.50 \pm 0.70$	-5.000	0.126
6	Right/wrong	$4.00 \pm 1.41$	$5.00 \pm 2.82$	1.000	<0.001
7	Matching	$4.00 \pm 1.41$	$4.00 \pm 1.41$	-	-
8	360°	$7.00 \pm 1.41$	$7.00 \pm 1.414$	-	-
9	DOPS	$7.50 \pm 0.707$	$7.80 \pm 0.10$	-1.000	0.500
10	Mini-CEX	$7.50 \pm 0.70$	$8.00 \pm 0.00$	-1.000	0.500
11	CSR	$7.50 \pm 0.70$	$8.50 \pm 0.707$	-1.000	<0.001
12	OSCE	$7.50 \pm 0.70$	$7.90 \pm 0.20$	-1.000	0.500

## DISCUSSION

According to the results; the total grades was better in post-test, after the workshops. Medical sciences teachers' knowledge and attitude had promotion about the assessment methods.

The assessment methods are different and in this study author worked on essay, short answer questions, modified essay, multiple choice questions, extended matching items, right/wrong, matching, 360°, DOPS, mini-CEX, CSR, OSCE.

The teachers of medical sciences had not been educated in previous years and with these workshops, they have promoted their knowledge and changed attitude for of some old, modified and new assessment methods.

After the workshops the knowledge was promoted in modified essay, extended matching items, 360°, DOPS, mini-CEX, CSR, OSCE. After the test, difference had been significant for these items. It showed that the workshop could increase the medical sciences teachers' knowledge about the exams, the same as other studies [2, 16].

After the workshops the attitude was changed and promoted in short answer question, modified essay, multiple choice questions, extended matching items, right/wrong, DOPS, mini-CEX, OSCE and CSR.

After the test, difference was significant for multiple choice questions, right/wrong and CSR [1, 2]. In the workshops, participants think about the application of its. It was the same as other researches [3, 17].

Health ministry educational programs can be helpful in teaching and assessing the students' learning and assessment.

The educational impact of assessment and the effect of teachers' knowledge on it were demonstrated [16]. It is a kind of scientific methods.

In some studies the effectiveness of assessment were shown, but feedback should be given for deeper learning [16, 17]. Some studies demonstrated the applications the types of assessments [1-3]. The knowledge about them are necessary for teachers [1, 3].

Other studies worked on measurement of knowledge and attitude and showed the promotional results. They had studies about physicians and teachers [28], nurses [24] and students [29, 30]. Sometime the aim of studies had been increase of patients' knowledge and change the attitude with teaching [27, 31]. These studies worked on and found the same results.

Another study showed the effects of workshops on medical sciences teachers' knowledge, attitude and practice [16]. It means that the

organization could promote them. These results were as the same as this study.

This study had some limitations; the number of medical sciences teachers who had participated in the workshops was low. Another study is recommended with more teachers.

This study recommended that workshops for medical sciences teachers were effective for learning the assessment methods. These workshops could effect on attitude of teachers too. It can be resulted to standardization of educational exams.

#### Conclusion:

According to the grades, workshops were useful for promotion of medical sciences teachers' knowledge and changing and promoting the attitude about the assessment methods.

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