A Comparative Study Between Nineveh and Tikrit Medical School Teachers Perceptions regarding the Effectiveness of OSCE in Clinical Examination

Wafa Mahmood Jasim[1], Zahraa Ahmed Hassan[2]

[1]Lecturer, Family&Community Medicine / Northern technical university / Kirkuk Technical Institute, [2] Community Medicine/ Collage of medicine / Kirkuk university, Researcher[2]

Abstract

Assessment students competence is of much importance especially when evaluation the expected learning out come of medical education and because of increasing students number enrolled in medical colleges , this lead to enhance the chance of malpractice that compromise patient conditions , therefore it is challenging to develop and implement such an objective assessment method in clinical examination. Objective of the study: The study aim is to compare the traditional and innovative medical school teachers perceptions regarding the effectiveness of OSCE in clinical examination . A descriptive cross sectional study has been conducted in both (Nineveh and Tikrit medical college from the period of 15th February till 20 th April / 2014. The study was included 95 medical teachers from both traditional and innovative schools .(55 teachers from the traditional school and 40 from innovative school). A special questionnaire form was prepared by the researcher through direct interviewing with the study sample. The results show that 63.1% of medical teachers are male , 49.5% aged between 40-49 years ,65.3 % from basic specialty sciences , 51.6% having a period more than 10 years in teaching, 70.9% of traditional school teachers agree that OSCE evaluate the practical objectives in comparison to 67.5% of innovative school teachers agree with that OSCE evaluate knowledge, understanding , practical , and intellectual objectives. The study concluded that more than half of traditional medical teachers agree with the affectivity of OSCE in assessing large number of students without bias while medical teachers from innovative school agree with the objectivity of OSCE in clinical evaluation.

Key words :- *Medical teachers, Perceptions, clinical examination, Kirkuk, Iraq.*

Introduction

Assessment usually referred to as a evaluation system for all professional accomplishments by using a different defined criteria which mainly having an attempt at a measurement point either by assigning numerical value or grading on a rough scale [1,2]. Assessment of medical students skills and their knowledge is of necessary benefits because it is not only filters the best students but continuous monitoring which leads for better future physician [3]. A specific documented assessment test should produce the similar scores for two or more situations occasions or if corrected by two or more examiners. The validity of a test is determined by the extent to which it measures whatever it sets out to measure.[1,3]

Usually many different methods of medical students assessment such as multiple choice questions (MCQ), modified assay questions (MAQ), viva voce (VV), long case discussion and lastly objective structured clinical examination (OSCE) [4].

Each one of these evaluation method may express the psychomotor , cognitive or students behavioral skill but rarely it can prudent all these skills in one single method but the most best one of these that encounter the

Corresponding author:
Wafa Mahmood Jasim
Wafamahmod396@yahoo.com

indicative purpose is OSCE where the medical students face a standardized patient prepared for examination purpose in front of the examiner [5,6.] OSCE was first mentioned in clinical examination by Harden since 1975 and during this period OSCE was suitable for both of students and faculty 7 .

OSCE is mainly used for evaluation of basic and clinical skills. Students are assessed at different a number of "stations" on discrete focused activities that simulate many parts of clinical competence. For t each station a standardized patients (SPs), real patients or simulators may be used and full explained demonstration of each specific skills can be observed , monitored and measured. OSCE stations also have the ability for incorporate the assessment of non-patient skills , technical skills, and interpretation 8,9.

Although of a complete comprehensive coverage of the whole curriculum that is possible to done , OSCE has one disadvantage through losing the real aspect to a patient due to segregated encounters at many different station of it [10,11.] In order to obtain a specific measurable test of performance reliability is a function of sampling , it should have a number of competences tested and stations . So for calculating the score with a task specific checklist or a combination of a rating scale and checklist together [12]

The aim of the study is to compare the traditional and innovative medical school teachers perceptions regarding the effectiveness of OSCE in clinical examination .

Subjects and methods :

Sampling methods :

A cross- sectional study was done among medical teachers in Nineveh and Tikrit medical college and 95 teachers from both basic and clinical departments were included in the study (55 teachers from traditional school and 40 from innovative school).

A certain specific questionnaire sheet was distributed to all participants after taking their written agreements and the data was obtained through face to face method after full brief explanation of the study aim .

Study period and setting :

The study was preformed during the period from 15th February until 20 th April

/ 2014 according to special time table which has been prepared by the investigator in both Nineveh and Tikrit college of medicine **Tool for obtaining the data:**

A certain questionnaire sheet has been designed by the investigator contain the following parts :

Part-1-Demographic characteristics including (age, gender, certificate, period in teaching, specialty and scientific degree)which has been taken from the unite of human resources at each medical collage .

Part-2- Teachers perceptions about the main objectives evaluated by OSCE .

Part-3- Teachers perceptions about the affectivity of OSCE in clinical examination .

Part -4- Teachers perceptions regarding the factors affecting the application of OSCE . Part -5- Teachers suggestions for future high quality OSCE clinical examination .

Ethical issues

Agreements were obtained from both Nineveh and Tikrit college of medicine before starting the research .

Analysis of the data statistically :-

For the statements contain yes and no answer , number and % was done .

The relation between the studied variables was done by calculating Chi- square test and ($P < 0.05$) was regarded significance at level 5% .

Results

Table 1 show that 63.1% of medical teachers are male , 49.5% aged between 40-49 years ,

65.3 % from basic specialty sciences , 51.6% having a period more than 10 years in teaching , and 37.9% are lecturers Table 2 show that 70.9% of traditional school teachers agree that OSCE evaluate the practical objectives in comparison to 67.5% of innovative school teachers agree with that OSCE evaluate knowledge, understanding , intellectual and practical objectives with p value = 0.000. Table 3 presents that 69.1 % of

traditional medical teachers agreed with the affectivity of OSCE in assessing large number of students without bias while 80% of innovative medical teachers agree with the objectivity of OSCE in clinical evaluation in different specialties with a p value = 0.084

On the other hand both of traditional and innovative medical teachers disagree that OSCE is saving time and effort with a p value =0.073 . Table 4 shows that male teachers from both traditional and innovative schools go with the OSCE tasks and commands did not demonstrated correctly before exam (41.9% 51.7%) respectively with a p value =0.448. On the other hand 41.7% females from traditional schools agree that there was no adequate time for each station while 54.5% female from innovative schools agree that there was an interference during exam which disturb it with a p value =0.261 . Table 5 presents that traditional medical teachers from both basic and clinical departments suggested a combination of innovative and traditional assessment methods to get a better future results (43.6%, and 50.0%) respectively with a p value =0.593. For the innovative school ,the medical teachers from basic departments suggested the necessity for more advanced training educational program for staff member to increase their ability about the correct application of OSCE (47.8%), while (58.9%) teachers from clinical departments suggested the support from college administration to implement and development of OSCE with a p value =0.045 .

Table 1: Frequency distribution of medical schools teachers according to their socio demographic characteristics

Socio demographic parameter		Traditional school (Nineveh) N=55	Innovative school (Tikrit) N =40	Total N= 95	
		No.	No.	No.	%
Gender	Male female	31 24	29 11	60 35	63.1 36.9
Age group (in years)	30- 39 40- 49 50 -59	18 20 13	6 27 5	24 47 18	25.3 49.5 18.9
Certificate	Master of science Board (Iraqi and Arabian) PhD	17 15	10 23	27 38	28.4 40.0
		2 3	7	30	31.6
Specialty	Basic sciences Clinical sciences	39 16	23 17	62 33	65.3 34.7
Period in teaching	< 5 years 5-10 years	8 19	4 15	12 34	12.6 35.8
	> 10 years	28	21	49	51.6
Scientific degree	Professor Assistant professor Lecturer	2 12 21	1 14 15	3 26 36	3.1 27.4 37.9

Table 2 : :Distribution of study medical teachers according to their perceptions regarding the types of objectives evaluated by OSCE in clinical examination

Types of objectives evaluated by OSCE	Teachers perceptions								P* value
	Traditional schools (Nineveh) N= 55				Innovative school (Tikrit) N=40				
	Agree		Disagree		Agree		Disagree		
	No.	%	No.	%	No.	%	No.	%	
Knowledge , understanding	30	54.5	25	45.5	12	30.0	28	70.0	0.017
Intellectual	37	67.3	18	32.7	11	27.5	29	72.5	0.000
Practical	39	70.9	16	29.1	16	40.0	24	60.0	0.003
All the above	17	30.9	38	69.1	27	67.5	13	32.5	0.000

* χ^2 – test was used

Table 3 : Distribution of study medical teachers according to their perceptions regarding the affectivity of OSCE in clinical examination

Affectivity of OSCE in clinical examination	Teachers perceptions								P* Value
	Traditional schools (Nineveh) N= 55				Innovative schools (Tikrit) N=40				
	Agree		Disagree		Agree		Disagree		
	No.	%	No.	%	No.	%	No.	%	
1- Improve students performance by setting clinical scenarios	29	52.7	26	47.3	23	57.5	17	42.5	0.644
2- Objectivity in clinical evaluation in different specialties	35	63.6	20	36.4	32	80.0	8	20.0	0.084
3- Valid and reliable method of evaluation	225	45.4	30	54.6	27	67.5	13	32.5	0.033
4- Save time and effort	15	27.3	40	72.7	18	45.0	22	55.0	0.073
5- Assessing large number of students effectively without bias	38	69.1	17	30.9	21	52.5	19	47.5	0.100

χ^2 – test was used

Table 4: Distribution of medical teachers according to factors affecting OSCE in clinical examination

Factors affecting OSCE	Medical teachers perceptions								P* Value
	Traditional schools (Nineveh) N= 55				Innovative school (Tikrit) N=40				
	Male		Female		Male		Female		
	No.	%	No.	%	No.	%	No.	%	
1- Interference during examination	4	12.9	2	8.3	7	24.1	6	54.5	0.261
2- OSCE tasks and commands did not demonstrated correctly before exam	13	41.9	5	20.8	15	51.7	3	27.3	0.448
3- Inadequate time for each OSCE station	7	22.5	10	41.7	4	13.8	1	9.1	0.379
4- Bed side objective clinical teaching is not covered in OSCE exam	5	16.2	4	16.7	3	10.4	1	9.1	0.510
5- Facilitator is not cooperative	2	6.5	3	12.5	0	0.0	0	0.0	----
Total	31		24		29		11		

χ^2 – test was used

Table 5: Distribution of medical teachers according to their perceptions regarding future suggestions for high quality OSCE in clinical exam

Future suggestions for high quality OSCE in clinical exam	Medical teachers perceptions								
	Traditional schools (Nineveh) N= 55				Innovative school (Tikrit) N=40				P* Value
	Basic		Clinical		Basic		Clinical		
	No.	%	No.	%	No.	%	No.	%	
1- College administration support	11	28.2	4	25.0	6	26.1	10	58.9	0.045
2- Adequate resources	6	15.4	2	12.5	2	8.7	1	5.9	-
3- Advanced training educational program for teaching staff	5	12.8	2	12.5	11	47.8	3	17.6	0.717
4- Combination of both traditional and innovative assessment methods	17	43.6	8	50.0	4	17.4	3	17.6	0.593
Total	39		16		23		17		

χ^2 – test was used

Discussion

The current study show that traditional school teachers agree with the OSCE evaluate the practical objectives in comparison to innovative school teachers who agree with that OSCE evaluate knowledge, understanding , practical , and intellectual objectives .

A study was conducted by [13]. In Qassim university / King fahad specialists hospital to evaluate the reliability and validity of the interactive OSCE in the medicine and to evaluate the appropriate time for each station . They found that 84% of the external and internal examiner that OSCE satisfy covering the whole skills needed by the junior physician who well work under supervision but they reported that the duration of each station can be increased to get a better results during the examination .

Similar results were obtained by[14, 15]. and Siddiqui [16]. that OSCE is a very reliable and valid performance test through using an evaluating sheet and it is a satisfactory method in addressing the intended purposes which were designed for it if correctly applied .

Regarding the affectivity of OSCE in clinical examination , the present study reveled that traditional medical teachers agree with the affectivity of OSCE in assessing large number of students without bias while innovative medical teachers agree with the objectivity of OSCE in clinical evaluation in different specialties .

A study was done by Alaa *et al* in Tikrit university / medical college / 2013.[17.] to over come rater variation in clinical assessment of medical students through improving the use of OSCE as an assessment tool in Tikrit university / College of medicine .

They found that OSCE is used by 30% for assessment at the end of their clinical clerkship for 6th year study only and there was no suitable comfortable place for OSCE application and only 40 % of faculty members were interested in development and implementation of OSCE in clinical evaluation .

They mentioned that the main obstacles and root causes of OSCE development are (some faculty and students don't know what is OSCE , its validity and reliability in addition to that some staff members are not adequate trained about how to implement OSCE .

The current study show male teachers from both traditional and innovative schools go with that the main factor affecting OSCE is the tasks and commands did not demonstrated correctly before exam

A study done by [18] in Cairo and Ain Shams university / Egypt to build a capacity of nursing faculties and staff member for OSCE establishing simulated learning experience in clinical practice and comparing the feasibility , utility and effectiveness of using OSCE as an assessment method with the comparison between students and faculties perceptions for OSCE validity and reliability . They reported from their study that 57% of faculty member knew nothing about OSCE and 98% of them had no experience previously in using OSCE .

They concluded that OSCE provide an attractive options for students assessment competency and giving a practical strength points for faculty staff objectivity and reliability for all students assessment especially when OSCE compared with traditional practical assessment methods and the most important factor attributing for OSCE evaluation is the adequate time for each station .

Concerning the future suggestions for better OSCE , the current study show that traditional medical teachers from both basic and clinical departments suggested a combination of innovative and traditional assessment methods.

This result is agree with a study done by [19] 2008 about the OSCE and its reliability and validity in medical students evaluation with a review of the consequences of OSCE method and outlines the important issues for medical educators in order to consider when there is a need for its application in the educational program in the future . They found that medical educators usually needed the most useful reliable valid method for both formative and summative students evaluation because such method is regarded as a useful for learner , faculty , institutional , and for the public at large are great .

They mentioned that OSCE has become the standardized practice in modern assessment of students clinical competence and the outcomes for this test are generally used for high – stakes decision making at different levels , in addition to that , they said that the correct suitable planning coordination of multiple resources , commitment to large scale testing in order to get a significant results .

Limitation of the study :

Difficulty in collecting the questioners sheet with the over load students schedule

Conclusions

1- OSCE evaluate the knowledge, understanding , intellectual and practical objectives .

2-Affectivity of OSCE through assessing a large number of students without bias and the objectivity of OSCE in clinical evaluation in different specialties .

3- There is a need for OSCE tasks and commands to be demonstrated correctly before exam

4- Adequate time is necessary and avoid interference during exam.

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Ethical issues : Agreements were obtained from both Nineveh and Tikrit college of medicine before starting the research

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