COMPARISON OF STUDENT'S SELF-ASSESSMENT TO EXAMINERS ASSESSMENT IN A FORMATIVE OBSERVED STRUCTURED CLINICAL EXAMINATION : A PILOT STUDY

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ABSTRACT

Objective: To compare students' self-assessment with assessment by examiners in a formative observed structured clinical examination (OSCE) and comparison between cumulative score and global rating scale for students and faculty evaluation.

Methodology: This cross sectional study was carried out on 6th year medical students of Oman Medical College, Family Medicine rotation in a formative OSCE. A self-assessment questionnaire was completed by 15, Year 6 students immediately after the OSCE. Statistical analysis was done with SPSS 16.0 for Windows. Regression analysis was used to correlate self reported rating and actual performance in each station. A p value of < 0.05 was considered significant. Correlation between cumulative score and global rating scale for students and faculty evaluation was calculated by Pearson correlation.

Result: Students has done appropriate self-assessment on dyspepsia history while the other two stations have shown some discrepancies in self-assessment and examiners assessment.

Conclusion: Self-assessment is comparable to examiner evaluation. Examiners assessment has shown consistent and positive correlation between cumulative scores and global rating scores while students had failed to show this consistency.

Key Words: Self-assessment, Clinical skills, Medical students, Formative OSCE.

INTRODUCTION

Student in medical school need to understand and integrate clinical knowledge, skills and attitudes in order to be able to diagnose effectively and perform safely in the context of developing good relationships with patients and colleagues[1]. Assessment is always helpful to provide the students with feedback on clinical performance to enable them to improve for learning. If appropriate, constructive feedback to students will help to provide insight into their learning[2,3].

The OSCE is an approach to student assessment in which the clinical competence is evaluated in comprehensive, consistent and structured manner and assessment can be done by combining global rating scale with check list[4,5]. Check lists are useful for detailed feed back on process items, whereas global rating generate feed back on more integrated complex behaviours. OSCE is considered the proto type of performance based assessment of multiple skills[6].

Self-assessment is a reliable assessment technique producing consistent results across items, tasks and contexts and over short time periods[7]. Differences between self- and teacher-assessment can lead to productive teacher-student

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conversations about student learning needs. There is persuasive evidence, across several grades and subjects, that self-assessment contributes to student learning and that the effects grow larger with direct instruction on self-assessment procedures[7].

Assessment can be formative (guiding future learning, providing reassurance, promoting reflection, and shaping values) or summative (making an overall judgment about competence, fitness to practice, or qualification for advancement to higher levels of responsibility). Formative assessments provide benchmarks to orient the learner who is approaching a relatively unstructured body of knowledge[9,10]. They can reinforce intrinsic motivation of students to learn and inspire them to set higher standards for themselves .Self-assessment has been held out as an important mechanism for lifelong learning and self-improvement for health care professionals, they must set themselves targets and goals and regularly assess their own performance[11]. For self-assessment to be successful, a change in culture is required, such that students and professionals alike feel comfortable making judgments about their own performance for better patient care[12]. Benefits include increased motivation as well as improvements in knowledge, communication and performance. Self-assessment program promote reflection on personal performance, identify reactions to self-assessment, evaluate the reliability of marking and identify reasons for discrepancies between scores of assessor and assesses[13]. The ability to accurately assess one's weaknesses and strengths generates a capacity for finding an effective balance both in daily practice and in setting personal learning goals.

Students at Oman medical college (OMC) learn clinical skills, communication skills in outpatient clinic. Daily assessment is done and feedback by facilitator is given regularly. Formative OSCE with feedback is done in last week of rotation. End of the rotation OSCE (end of 8th week) is done with 10-12 stations observed stations.

We have conducted this pilot study to determine how confidently our students are doing self-assessment of clinical skills performance and comparison of the score from examiners assessment as well as between scores and global rating for students and examiners.

METHODOLOGY

This cross sectional study was done on sixth year medical students in Family Medicine formative OSCE at Oman Medical College Rustaq campus, Sultanate of Oman. All 15 students consented to participate in this study were included in this study. It was convenience sample size as in each rotation 15 students rotates in each discipline.

Data was collected through self filled check list (standardized rating scale score) for students (Annexure 1). The students were assessed by clinical faculty during history taking and physical examination and evaluated on the same rating scale. Students were asked to evaluate their own clinical skills at the end of OSCE. Three observed stations were designated as study stations (total no. of stations were 10).

Study stations were clinical scenario based: History taking of Dyspepsia and knee pain and Examination of posterior chest.

Two sessions were conducted for faculty to brief about the check list. The goal and objective of the study explained to the students in the review session.

A check list of clinical skills containing history and physical examination was used. This checklist has been used, keeping in view the skills training received in the 6th year for assessment purposes in OSCE.

The check list for history taking comprises of generic aspects, rating scale regarding questioning skills, professional manner, and organization of interview with time management followed by closing interview. In examination part the check list had assessment for technique, correctness of skills, purposeful and logical flow and completion of all relevant components.

The evaluation was performed ranging from poor, border line, clear pass, excellent and outstanding. All the attributes were assessed in the same manner. Total score for each station was 10. The score cut offs for poor <6, borderline 6-7, clear pass 7-8, excellent 8-9 and outstanding 9-10.

The rating scale for the study station on history of a patient with knee pain and dyspepsia included communication skills with items on meet and greet self-introduction and taking of consent before history taking. Demographic details required age and occupation of the patient and residence. Items related to details of pain included site, onset, duration, frequency, progression, character, radiation, intensity with pain score, aggravating and relieving factors. Associated symptoms were nausea, vomiting, fever. History taking also included, past medical and surgical

Annexure 1: Survey Instrument for students and examiner - Check list for OSCE

	Not done 0	Poor 1	Borderline 2	Clear pass 3	Excellent 4	Outstanding 5
Questioning Skills:						
Open ended						
Appropriate language						
Does not repeat						
Professional manner and rapport:						
Concerns' for patients comfort						
Addresses patient comforts						
Organization of interview:						
Logical flow						
Time management						
Closing interview:						
Summarized						
Examination/ Procedure:						
Purposeful /logical flow						
Completion of all relevant components						
Correctness of skill/technique						

problems, family history, personal and drug history. At the end student needed to summarize the history to the patient.

On the examination station the scenario was dry cough for three weeks and students were asked to examine posterior chest the check list contained inspection, palpation, percussion and auscultation.

The OSCE was done on simulated patients. There were two training sessions for simulated patients for standardization and consistency in performance.

Three dependent variables were assessed; (i) The global impression of the OSCE performance [clear pass, borderline, Clear fails] (ii) The overall score for the OSCE [from 0 -10], and (iii) The cumulative score for all of the items in the checklist for that OSCE station. SPSS was used to analyse the findings.

RESULTS

All 15 students completed the self-assessments. For the Chest Exam OSCE station there was a significant but negative correlation between the students' rating of global impression and the faculty's ratings of global impression. Pearson's correlations reveal $R (14) = -0.61$, $p < 0.05$, showing that the students that rate themselves highly on this OSCE station were rated lowly by the faculty.

For the knee exam OSCE station, there were no significant correlations between the students' self assessments and the faculty assessments, for example on the cumulative total for the checklist $R (14) = -0.096$, $p = 0.74$.

For the Dyspepsia OSCE station, there were also no significant correlations between the student self-assessment scores and the scores given by faculty, for example on the cumulative total for the checklist $R (14) = 0.084$, $p = 0.78$.

It is worth noting that there was significant inter-variable consistency within the faculty, in that the scores for global impression, overall score and the cumulative score were all significantly correlated with each other. However they were not were matched by the students' self-assessments.

**Figure 1: Correlation between the students'
self-assessments and the faculty**
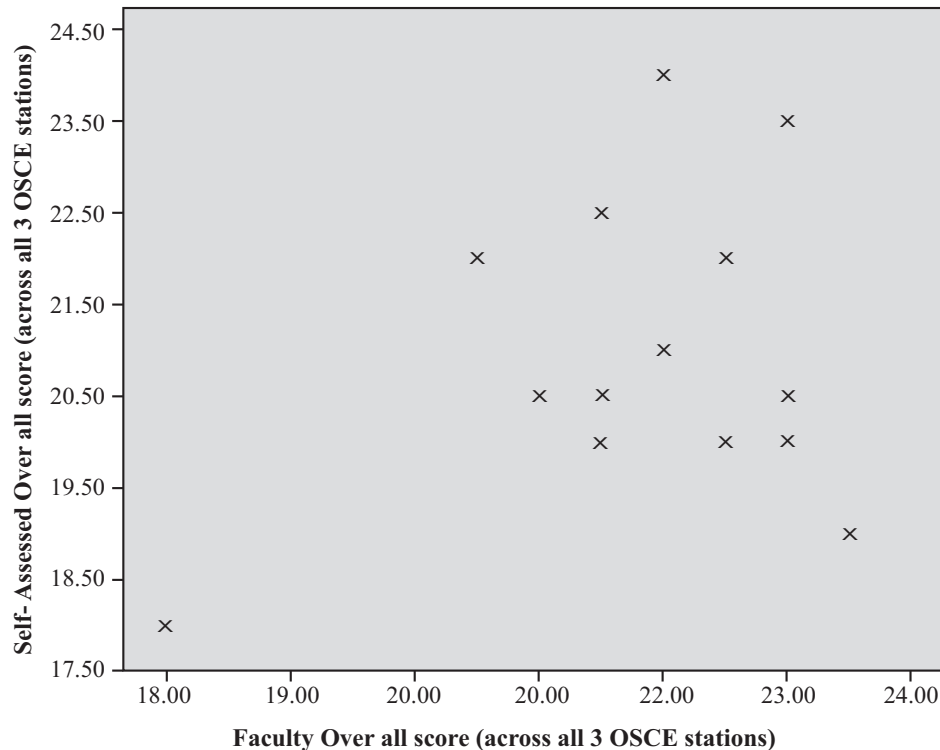
This lack of correlation between the students' self-assessments and the faculty is clearly illustrated in figure 1, which shows the Overall scores (from 0-10) across all three OSCE stations, $R (14) = 0.294$, $p = 0.31$.

DISCUSSION

Self-assessment of knowledge and accuracy of skill performance with feedback is essential to the practice of medicine and self-directed life-long learning[14,15]. There is clear discordance between the assessments that are being given by faculty and the self-assessment of students. In some of the OSCE stations a selection of students have under estimated their performance as can be seen by the negative correlation. Students did appropriate self-assessment on dyspepsia history while the other two stations have shown some discrepancies in self-assessment and examiners assessment. Students have under estimated their performance on knee pain history and posterior chest examination. This is seen in literature that students are more comfortable in those skills which were practiced and observed during their clinical rotation, this competency is needed when they become graduate[16]. Students demonstrated appropriate self-evaluation skills where they were quiet motivated to participate in the skills learning and self-assessment usually co-relates with the frequency of performance.

Examiners assessment has shown consistent comparison between cumulative scores and global rating scores while students had failed to show this consistency. Students formative assessment is guiding the future learning, providing reassurance, promoting reflection which help them in to perform appropriately in summative examination[17,18]. They can reinforce students' intrinsic motivation to learn and inspire them to set higher standards for themselves. Accuracy in self-assessment of skills can improve students' clinical skills learning in future. One of the study has shown that the clinical skills assessment does not match with teachers' assessment[19].

The strengths of self-assessment can be enhanced through training students how to assess their work and each of the weaknesses of the approach can be reduced through teacher action. Comparison studies have shown that there are discrepancies in clinical skills in different clinical year[20]. Our students have shown appropriate self-assessment in one of the history taking station, the

literature also support student's self-assessment is good for history taking attributes[21-22]. There are evidence that self-assessment not only improves clinical skills but also gives student confidence in communication skills, to promote professionalism, teamwork, and better patient management[23]. Study has shown that formative OSCE was a convenient tool for providing deeper insight into student's ability to prioritize, self-assess and promote their own learning on simulated patients[24]. Comparing medical students' self-assessment with the examiners assessment in the OSCE with feedback has highlighted students' strengths and weaknesses, and some challenges too. Introduction and integration of structured clinical skills teaching in early years contributes greatly in the development of students clinical skills by helping them built their strengths and address their learning need[25]. Aim is to promote reflection on personal performances, reliability of making identify reaction to self-assessment reasons for discrepancies between assessor and self-assessment.

LIMITATION

The limitation of this study is the low number of students which were taken as convenient sample. Every rotation has total number of students varying from 13-15. We had three study stations out of 10 stations to pilot this study. The survey instrument used the same check list, we use for OSCE in every rotation.

CONCLUSION

While there is significant inter-variable reliability for faculty, indicating a rigorous assessment method utilizing the standardized scales, these faculty assessments did not correlate with the self-assessment of students for any of the three OSCE stations. This highlights the need for further development in the areas of students' self-reflective and assessment skills so that students can more ably meet on of the core competencies of a medical graduate: "The competent medical graduate assesses his/her strengths and weaknesses in order to improve performance and identify effective ways to address limitations and enhance expertise".

RECOMMENDATION

All students should have opportunity for self-assessment and feedback in mid rotation exam as well as at the end of each session. Students need to learn regarding effective self-assessment in their clinical skills and communication skills.

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