



## Introduction of Osce as an Assessment tool for Undergraduates in Ophthalmology – Our Experience at A Tertiary Care Rural Teaching Centre in Central Gujarat

### KEYWORDS

Clinical skill assessment, Ophthalmology, feasibility

Dr. Chaitali Patel

Dr. Devendra Saxena

Dr. H.C.Jani

Mrs. Jayshree Ganjiwale

**ABSTRACT** *Background:* Traditional method of exam has certain shortcomings in the form of a stigma of bias and partiality, unreliability and lack of generalisability. This was overcome by the introduction and implementation of OSCE. Considering the benefits of OSCE in medical education, it was tried as a method of assessment for the 3rd year students at the end of their clinical posting in ophthalmology in our set up.

*Methods:* The batch of students were oriented to the assessment method and their OSCE exam was conducted at the end of their clinical posting with ophthalmology. After the OSCE, we also took a feedback from the students to assess their perception about this new approach.

*Results:* The students performed pretty well in the skill section. About 95% students filled in and returned the feedback form, implying good response rate, possibly because of students' interest in the activity. They mentioned about the fair examination and almost all students appeared to be comfortable and welcomed the newer method of clinical skills assessment.

*Discussion:* Our students also accepted OSCE on a warm note. The students welcomed this shift from the tedious and monotonous method of viva-voce /and case presentations. The students enjoyed communicating and skill demonstration in front of simulated patients.

*Conclusion:* With this pilot study, it is understood that assessment in our setup is possible and acceptable through OSCE, so should be incorporated in the system as a regular way of assessment.

**Introduction** – It has rightly been said that “Necessity is the mother of invention”. This statement is in context to a change brought in the method of assessing medical students, who are still being assessed by the traditional method of examination like long cases, MCQs, and viva voce. The time honoured traditional method of exam had certain shortcomings in the form of a stigma of bias and partiality, unreliability and lack of generalisability. This was overcome by the introduction and implementation of OSCE, which is being considered as a novel method of exam<sup>(1)</sup>. Additional positive aspects of OSCE are its wide coverage of the curriculum, real time assessment and evaluation of the students. Genuine and authentic feedback from students is also possible after conducting an OSCE. It is known that assessment is the driving force behind learning and hence a change in the method of assessment was the call of the hour.

OSCE was introduced almost four decades ago in 1979 by Harden and Gleeson from Dundee and Glasgow<sup>(2)</sup>. Since its inception, it has gained enormous popularity and is being widely used to evaluate clinical competences in health care education. OSCE has now become the principle method of clinical skill assessment in medical schools and licensure bodies across USA, Canada, UK, Australia, New Zealand and other countries<sup>(3)</sup>. Looking at its effectiveness, it is being adapted in disciplines other than medicine like dentistry, nursing, midwifery, pharmacy, event Engineering and Law<sup>(4)</sup>.

The education system in India is at a difficult juncture. The quality of medical undergraduates being trained from various colleges in India has become a major cause of concern regarding their implementation of practical and clinical acumen. Various data based on the perception of

UGs and faculties, have laid more emphasis on the practical skills during their undergraduate training<sup>(5)</sup>. OSCE has also been conducted in the National board of Examinations and in a medical college of India in the department of Ophthalmology as well as in other subjects<sup>(6)</sup>. Till date, OSCE has not been a pattern of exam in any subject as a qualifying exam in India<sup>(7)</sup>. Question banks have also been created for different OSCE stations in Ophthalmology. These are being implemented gradually<sup>(8)</sup>. The Medical Council of India is also trying to sensitize the teaching faculties in various Medical colleges of India through its AT-COM module<sup>(9)</sup>.

Considering the increasing popularity of OSCE in medical education, we tried this method of assessment for the 3<sup>rd</sup> year students at the end of their clinical posting in ophthalmology in our set up. Previously the traditional method of case presentation followed by viva voce was a routine procedure. The marks were added to the students' internal assessment. After the OSCE, we also took a feedback from the students to assess whether this new approach was acceptable to the undergraduates.

Before elaborating on the method adapted in our department, let's have a quick insight into OSCE. The basic and core feature of an OSCE is a circuit of stations, (5 – 20) in number. The reliability increases on increasing the number of stations. As OSCE tests a wide range of skills, sampling error is greatly reduced. The stations can be manned or unmanned<sup>(10)</sup>. Presence of an examiner/supervisor at a station entitles it as manned, which is usually a directly observed procedure station. Skill demonstrations are carried out in these stations. The examiner marks the student according to a pre defined checklist. The observer in the manned station studies the various aspects of higher order

domains like, Cognitive, Psychomotor, affective or a combination of these <sup>(11)</sup>. The other types of stations are question stations. These stations are unmanned. Here the student has to interpret the diagnosis from the printed case scenarios, identify instruments, drugs and answer the relevant questions, which tested their higher order domains. These stations focus on what a candidate can do, rather than what they know. The examinee should know and fully understand of what is exactly required to be done at each station. The undergraduates can thus expand their repertoire of knowledge, skills and attributes <sup>(12)</sup>.

### Material and Method

According to the current admission policy of our institute, the strength of students admitted in first year is about 100. During their 3<sup>rd</sup> year, they are posted in batches of 20-22. It is an eight week compulsory rotation ship <sup>(13)</sup>. At the end of their term, so far, conventionally a viva voce was taken and the marks added to their internal marks. As OSCE was becoming popular as a new and innovative method, we decided to introduce this method in our department as a ward ending exam with our regular batch of undergraduates (3<sup>rd</sup> 1<sup>st</sup> batch) posted in ophthalmology in the year 2009. We repeated the same with the 2010 batch students as well, to see if it yielded the same results as the previous year students. There were 110 students in the 2009 batch and 98 in the latter batch. As we were undergoing a paradigm shift to a newer method, the students were constantly briefed about OSCE during their posting. A five station OSCE was set up for assessment. The responsibility of conducting the OSCE was assigned to a senior faculty member. The entire OSCE was consensually validated with a senior faculty from Medical Education Unit of our institute. There were one manned and four unmanned stations. In the manned station, students had to demonstrate a particular skill asked. The skill was one amongst a list of skills mentioned in the log book, and repeatedly demonstrated during their term. The manned station was monitored and marks allotted according to a predetermined checklist. Residents in the department played the role of simulated patients <sup>(14)</sup>. The time allotted to each station was 5 minutes and marks assigned to an individual station were also 5. Components of each station was predetermined and prepared well in advance along with a checklist as and where required, to prevent confusion at the time of exam. The various higher order domains were tested at different stations. Affective, cognitive and psychomotor domains were evaluated during skill testing. The other stations mainly tested the cognitive aspect of higher order domains. The first and second stations had been assigned for instruments and drugs. The student had to identify the particular instrument and drug and answer the questions related to the object. The third station was manned and skill demonstration by the students was carried out in this station. The attitude and communication of the student towards the simulated patient, as well as his knowledge in reference to the particular skill was evaluated against a predetermined checklist. The fourth and fifth station had printed case scenarios. The student had to go through the cases and answer the questions, printed at the end. The clinical case scenarios were sketched according to the learning objectives of their course.

After their exam a feedback on their experience of the assessment method was taken through a semi structured anonymous form. Out of the 207 students, who appeared for the exam (one was absent), 197 filled up the feedback form.

Below is a blueprint of the questionnaire which was circulated.

Table/Fig 1 about here

An analysis of the answers to the questions was done using descriptive analysis. The responses from the feedback form as well as the suggestions given by the students were also subjected to descriptive analysis.

**Results** -- Distribution of the answers to the questions asked in OSCE was tabulated as shown below.

Table/Fig 2 about here

On analysing the results, we found out that the students performed pretty well in the skill

section (Mean-4.12 and 3.41 in 2009 and 2010 batch respectively), followed by the case

### scenarios, drugs and last of all in the section on instruments.

About 95% students had returned the feedback form (197 out of 207). A qualitative analysis of the feedbacks reflected a positive attitude of the students towards this new form of exam set up. One hundred and eleven out of the 197 students (56.8%), appreciated this method and also suggested for continuation of this exam pattern in their Final University exam. 80 students (41.11%) had no comments regarding the exam pattern. 1 student was against giving exams of any types. Majority (97.9%) confirmed in the affirmative that the skills and theory taught in the tutorials were well assessed through OSCE. About 90% of students were able to deal with the clinical scenarios. Although the medium of communication was either vernacular or English, 89.6% could communicate properly with the simulated patients. 'OSCE was unbiased' was agreed upon by 76.6% of the students. The time limit of 5 minutes was not a problem with 82.8% of the students. The other suggestions received were:

- increase the number of station
- Increase the allotted time per station to 10 minutes
- keep a station on viva
- have a rest station.
- The majority wanted this method of exam to be conducted during their 3<sup>rd</sup> 1<sup>st</sup> university exam as well.

### Discussion:

Analysis of the answers revealed that the students performed best in the section designated to skill testing. This may be because of the skills being tested repeatedly during their clinical posting. The students had reported that the practice sessions/ demonstrations during their posting were very helpful in enhancing their learning. This is in consistency with another study conducted in a Physical Therapy Department, School of Medicine, Sao Paulo by Cebele and his colleagues, where learners found the practice exercises enhancing learning. <sup>(15)</sup> The students' perspectives towards OSCE was also analysed on the basis of the feedback form. About 95% students filled in and returned the questionnaire implying good response rate possibly because of the students' interest in the activity. Thus based on the response rate and the responses, we can assume that the students appreciated the assessment through OSCE. Our response rate was better than a similar study done by Cuchieri et al, where 80% of the students had returned the filled up questionnaire <sup>(16)</sup>.

Although 90.1% conveyed that their clinical teaching had helped them in dealing with

the case scenarios in their OSCE, few were not able to correlate the diagnosis with the

findings given (Mean of questions 4 and 5 of 2009 batch - 2.74, 3.05 and 3.21, 2.0 of 2010 batch respectively). As here cognitive domain was being tested, the students required revision of their texts to make their performance more satisfactory. About 90% students could communicate properly with simulated patient while the rest who were not able to express themselves might be either because of inhibition or poor command over language. Students also opined that they enjoyed giving OSCE as there was no examiner bias (76.6%). Study by Shadia Eldair in New born Health Nursing, Faculty of Nursing, Cairo University, 2013 reported 84.7% students having positive opinion about OSCE.<sup>(17)</sup> As all the students were exposed to similar conditions, instead of going through an ordeal of "lucky draw" of cases as in a traditional method of long case, they found OSCE as unbiased, reliable and satisfactory. This was also consistent with a study done by Kundu, Das HN and others in the department of Biochemistry in a medical college in Kolkata<sup>(18)</sup>.

Majority of the students (82.8%) felt that the allotted time of 5 minutes was sufficient

to complete the required task. This is in the same line to a study done by Kavita et al in a

Medical College in Pune, Maharashtra, India in the year 2008<sup>(19)</sup>, in the department of

Ophthalmology. However ACGME, (Accreditation Council for Graduate Medical Education) recommends a time limit of 10 -15 minutes for proper evaluation of more factors pertaining to a particular station<sup>(20)</sup>.

Our students also accepted OSCE on a warm note. The students welcomed this shift from

the tedious and monotonous method of viva-voce /and case presentations. The students

enjoyed communicating and skill demonstration in front of simulated patients. This was

because, in instances when the students were left by themselves to examine a real patient,

they had to face the hostility of the patient. This was avoided by keeping simulated

patients, with whom the students could communicate with ease. As the marks allotted was only 25 we were compelled to limit the number of stations to only 5. Although the reliability and validity of OSCE increases on increasing the number of spots or stations, there are no strict or limiting guidelines for the same.

As rightly stated by Ronald Harden, that if used correctly, OSCE can be a very useful instrument to assess competence in medicine<sup>(1)</sup>.

### Conclusion :

A rolling stone gathers no moss. Similarly to obviate the drawbacks of the traditional method of exam, OSCE was

conducted as a ward ending exam. As the backbone of OSCE is its reliability, validity, objectivity and transparency, this method enabled us to assess the students in a fair, uniform and impartial manner

Like in any new ventures, OSCE has also got its limitations. Preparation requires a lot of time and space. The negative mindset of some faculty member may be a bottleneck in active participation and implementation of OSCE. Although conducting OSCE was a bit challenging, the results and the feedback from the students were quite encouraging. It was worth appreciating the students on their seriousness and diligence on accepting this new mode of examination. The sincerity and dedication of the senior staffs and residents also need to be mentioned. On getting a positive nod from all fronts and in spite of a few shortcomings, we are still continuing OSCE as a ward ending exam by following the same methods adapted in our set up.

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Running Title – implementing OSCE, a new educational tool in UG exams

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