THE MODIFICATION OF OSCE TO REPLACE THE ORAL EXAMINATION IN THE DEPARTMENT OF OTORHINOLARYNGOLOGY, AIRLANGGA UNIVERSITY SCHOOL OF MEDICINE

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ABSTRACT

OSCE (Objective Structured Clinical Examination) can be used to replace the usual oral examinations for the students after their internship during the last year of their training. The OSCE was administered at five stations for history taking, examination of the patients, oral examination, essay questions and to fill in questionnaires. The oral examination lasted for fifteen minutes only at a station in the OSCE. Each station needs fifteen minutes. If it is possible it will use a real patient, otherwise a photograph is used to simulate a patient. So it can be used for a number of possibilities, especially in an acute case where a real patient cannot be used. When real patients are available, they are given honorarium, snack and drink. The multiple-choice questions (without numbering the items) were administered before the OSCE round with 100 questions. Students' cellular phones and books were kept in front of the room, so this assessment measures their own ability and not the result of their teamwork. The students who would be assessed were separated from those who had been assessed. One examiner assesses 4 to 5 students, so each day 12 to 15 students can be assessed. As a result, the days of the assessment can be reduced.

Keywords: *OSCE, oral examination*

It is difficult to assess an increasing number of students after their internship with oral examination as is usually the case in every department of the Airlangga University School of Medicine. The limited number of examiners, observers and good patients compel us to find another method of evaluation. The Otorhinolaryngology Department had done this OSCE 17 times in the last 2 years.

The OSCE was used to accomplish the ideal examination, that is to meet the criteria of a good test: (1) valid, (2) reliable, and (3) practical. There is no one examination that is ideal to assess the medical students. The multiple choice test can assess the whole topic in medicine and it is very objective, but it cannot be used to examine a patient (psychomotor aspect). The essay questions can have valid questions but only for limited items, difficult to correct and are still too subjective. Oral examination can assess the patient but with a number of disadvantages, such as subjectivity, limited number of items to ask, terrifying to the students, etc. With the OSCE, we can use multiple choice questions, essay questions, examine the patient, give an oral examination in a structured way.

In comparison with the first OSCE (Harden 1979) that used 20 stations for five minutes in every station, we used 6 stations and 15 minutes for each station. Reteguiz and Avandon (1999) use OSCE to assess the medical students using one station for 5-30 minutes.

Dornan and O'Neill (2000) use OSCE between 10-20 stations, each lasting 5 minutes, after 5 years of medical course.

Harden used the OSCE to assess undergraduate students. Meanwhile in the Otorhinolaryngology Department the OSCE was used to assess the students after their internship where usually they were assessed with an oral examination during their 12th semester of their study. The stations were: history taking, examination of the patients, oral examination and essay questions about the disease of the patients, and the last station was used to answer the questionnaire about the examination. The multiple-choice questions were used to ask the whole topic and consider the most important one (= must know.) Abbat, 1980)

The advantages of this system compared with the usual oral examination are:

1. using the same questions for the essay and multiple-choice questions
2. using the same patient for the whole student each day
3. using the same examiner for the student. One examiner for 4-5 students
4. using only 2-3 patients instead of 30 patients for each student
5. the examiner can assess in 1 hour instead of 2 hours
6. the assessment can be done in 3 days instead of 8 days for 32 students

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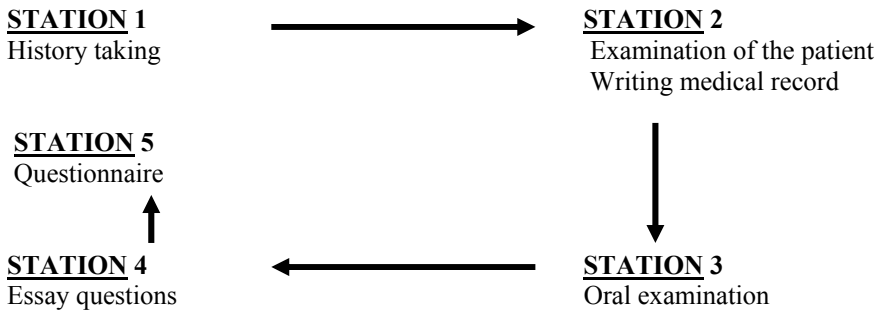
The disadvantages or difficulties are:
1. the need for special preparations for the scenario, the photo and data of the patients. The need for a person who is really dedicated to the assessment
2. the need for money for the honorarium of the patients
3. the need for special precaution for the secrecy of the items of essay and multiple-choice tests because the same questions are given to all the students. The students who are waiting for the assessment must be isolated and separated from those who have done the assessment.

The settings of the stations are:



1. The history taking

Our OSCE used an "artist" (that is our resident) who acts as the patient where the students ask about his complaints. The artists were given the history of the patient. This history taking was not marked. The aim was to see whether the students could ask and find important history taking for the diagnosis. When a patient was used for the physical examination, the history taking was still taken form the "artist" so the patient was to be used for the physical examination only. In fact, the "artist" could be assessed using a checklist, such as "the student had introduced himself", etc. But we think that it is not so important. The difficulty to assess with a checklist is we must use another examiner, whereas in fact we had a limited number of examiners. The goal in this station is to see whether the students could ask important things to make a diagnosis.

2. The physical examination test

If it is possible we would rather use a real patient for the OSCE, because the students ask for it and it is more realistic. The patients to be used must fulfill the following criteria:
1. They are not in the acute phase of the disease. Those who are should be treated immediately.
2. Adult patient who should be strong enough to undergo a three-hour examination by 12-15 students.
3. Willing to be used as a patient for the examination.

The patients were given honorarium, snack and drink.

Considering the fact that an acute phase patient is difficult to be utilized for examination, simulation photos of the patients were used, such as X-rays photo, audiogram, etc. The photos are available from Otorhinolaryngology textbooks, the internet, etc. So the OSCE can be employed for various possibilities to diagnose important diseases that are considered to be the "must know" topics (Abbat, 1980).

The students were asked to examine only the organ the patient complained about, not the whole body, otherwise it will take much time and make the patient uncomfortable. This is the disadvantage of this system. To overcome this weakness, the students were assessed a week before with "response examination" where the students examined a patient thoroughly and they were marked, and their weaknesses were discussed. The mark weighed less than the final examination (OSCE). As the students had been assessed how to examine the patients, in the second week of their training, they were not assessed again.

The physical examination in the OCSE was not marked as it could be seen from their medical record: could they find the disease or not. This is the goal.

3. The oral examination

The oral examination is still conducted because by employing this method the examiner can explore whether or not the students know exactly about the disease. Multiple-choice questions can only explore superficial knowledge. In 15 minutes the examiner assessed the reasoning ability of the students in diagnosing and differentiating the diagnosis of the patient (so it was structured). The other reason is that the doctor still encounters questions from patients, such as *'Should I be operated' 'Why?' 'Could I be treated without an operation?'* These human relationship

questions are difficult to be replaced by written questions.

Ideally one examiner should assess the whole batch of students, but this is impossible, so we used one examiner for 4-5 students. The examiners were given what questions to ask and how to mark the answers, so the reliability is high.

The maximum mark was 8 because not all questions were asked. If he was asked all questions he might be not able to answer all of them. The minimum mark was 4 because not all questions were asked; if all questions were asked he might be able to answer some of them. Actually mark 7 could be converted into A as the passing grade was 6.5. Every examiner asked 4-5 students a day, so everyday we need 3 – 4 examiners. Observers were not used as the witness for the examination usually due to lack of persons.

The oral examination was not weighed twice as usual, but approximately the same as the essay and multiple choice questions because it was done in only 15 minutes with a limited number of questions.

4. The essay questions

For 15 minutes at each station the students received 4 questions. The questions should be application and not recall of knowledge and the questions were about the pathophysiology of the diseases. *(To test the applications of knowledge rather than the presence of knowledge. Cox, 1982).* Some examples of the essay questions are:

a. *Why must we hospitalize a patient with diphteria of the tonsil (3 answers)*
b. *Acute tonsillitis is bilateral. Why do we get unilateral abscess of the peritonsil?*

The answers to these questions were prepared in advance with a marking scheme, so it was easy and is more reliable and can be corrected immediately by anybody. The maximum mark was 8 and the minimum mark was 4. Thus the essay questions are also structured.

5. The multiple-choice questions

The multiple-choice questions were excluded from the OSCE round. It consists of 100 questions from all diseases and from the discussion during the internship. The examination was administered one day before the OCSE. The multiple-choice questions were printed without using the number for each item, using 3 sets of test, so the students had difficulties to seek help from their friends. The examination will assess the ability of each student, not the ability of teamwork.

To mark this type of examination (numberless MCQs), three persons were employed; each person marked 3-4 papers, and somebody dictated the answer one by one. During the examination the students were asked to set off their handphones and put their handbag in front of the examination room. The handphone had not been invented in 1979 when Harden invented the OSCE. Nowadays the handphone can take a picture of the exam paper and send it to other students in seconds!

The difficulty in managing multiple-choice questions is this: if 100 students were assessed and each student memorized one item, the next day the whole text of the (new) 100-item examination would have been published by the student! It is difficult to construct a good 100-item test every 6 weeks for the students of the Department of Otorhinolaryngology, and that is the reason there was no discussion about the multiple choice questions. To disable the students from remembering the items, the items were not numbered.

After the 100-item MCQ test has been administered ten times, the mean of the students' score is approximately 60. It means that the questions are still good, and it indicates that the students could not record the test. The items were reviewed in a simple way: if the good students (the high scoring students) chose the wrong items, it means that the items are too difficult, and the score could be added as a 'bonus' for the bad questions. If the poor students (low scoring students) chose the right answer, it means that the item maybe easy. But the score on the overly easy items was not subtracted. After the fifth administration of the multiple-choice questions, the items were reviewed and 25% of the whole questions were revised.

6. Questionnaire

There were several good suggestions provided by the students through the questionnaires to alter the system of the OSCE. For instance, the history taking should be conducted at the first stations and the result should be attached to the medical record in station 2. The students felt a "difference" when assessed without a patient, so a patient should be used in the next OSCE. The students also felt that the "artist" was exhausted after a three-hour session answering questions, and s/he did not help the students enthusiastically anymore. It was suggested that two "artists" be used each day instead of just one. They also suggested that all students should put handphones, books, and handbags in the examination room. So during the waiting for their turn in the examination in the isolation room, they can discuss anything but not reading otorhinolaryngology books.

7. Organization

The OSCE was prepared much in advance regarding the scenario, the data/photos and the questions. The data and the essay questions were printed on a piece of paper with the name of the students printed. The order of the students in the examination had been known two weeks in advance as a result of a lottery. (A lottery was drawn to decide the order of the students for the examination and it should be announced two weeks in advance). The patients or photos from textbooks were prepared a week in advance.

The examiners were scheduled and invited to come on time, otherwise it would ruin the schedules. If the patient did not come, a photo of the disease was shown instead, so it was not necessary to change the topic of the examination of the day and the same examination essay questions were also given.

SUMMARY

The students were assessed after training in the twelfth semester using the OSCE in a structured essay, an oral examination and a patient to be examined. The 100 multiple-choice questions were administered one day before the OSCE round, without numbering them, in three test batteries. With this method the OSCE used less patients and less examiners in a shortened period. This is a structured, objective, valid and reliable examination.

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