

The Use of Real Patients, Simulated Patients and Simulators in Clinical Examinations

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Guide Overview:

In the assessment of clinical competence it is important to observe a candidate interacting with a patient. Patients used in examinations may be real or simulated by a person who has undergone training in order to reproduce a particular scenario. Models or simulators, videotape and audiotape and computers may also be used as patient substitutes. This guide provides suggestions for the use of patients in clinical examinations. An account is given of the different ways in which patients can be represented in the examination, including real patients, simulated patients or patient substitutes, and the factors which should be taken into account when selecting the patient representation to be used.

1 Examination of clinical competence

The assessment of a student's clinical competence involves the measurement of a wide range of inter-related but different skills including skills of communication and physical examination of patients. Little attention has been paid to when it is appropriate to use real patients and when standardised simulated patients should be used.

The development of the Objective Structured Clinical Examination (OSCE), with its emphasis on patient participation, represented a different approach which aimed to achieve both reliability and validity. The concept of simulated or programmed patients was introduced to facilitate the learning of clinical skills and was subsequently developed for use in assessment.

In the clinical examination there are three variables – the student, the examiner and the patient. The aim should be to standardise the examiner and the patient so that the student's performance can be seen as a measure of his or her clinical competence.

2 Approaches to patient representations in clinical examinations

Three approaches to the use of patients in clinical examinations are available:

- 1 'Real' patients as encountered in medical practice
- 2 Simulated patients – individuals trained to play the role of patients

- 3 Patient substitutes, including video or sound representations, plastic or other models, or computer simulations

'Real' patients

With careful selection, 'real' patients can provide an adequate opportunity to assess a candidate's skills. To reduce the variability in the cases presented to students, it is possible to recruit a small group of patients with the same condition and similar signs. In many centres real patients rather than simulated patients are used in OSCEs.

Advantages of using 'real' patients:

- They can demonstrate clearly abnormal findings such as goitre, cardiac murmurs, hypertension etc
- They are readily available in many situations
- They require no additional resources and minimum organisational support.
- They may incur no cost other than travelling expenses for out-patients.
- They offer a high level of acceptability to staff and students
- If included in an examination together with simulated patients they may make the whole experience more credible.

Disadvantages of using 'real' patients:

- They may be less available in some situations.
- If not carefully selected, participation in an examination may cause distress or embarrassment for the patient.
- The patient may be unwilling to participate in an examination where they are exposed to large numbers of students, as in an OSCE.
- Their behaviour may be unpredictable, their physical signs may change and their overall condition may deteriorate. Current medications may preclude their taking part, as may conflicting commitments such as investigatory or therapeutic procedures.
- Patients may be difficult to standardise with the result that students assessed on another patient may have a very different experience.
- Real patients may have greater difficulties in adjusting their medical histories than simulated patients have in learning new ones

Simulated and standardised patients

Simulated patients (SPs) may be real patients or lay persons who have undergone varying levels of training in order to provide consistent clinical scenarios. The simulated patient if appropriately trained should not be distinguishable from a real patient by experienced clinicians. Simulated patients can be used to test a broad range of skills including history taking, physical examination and counselling. Most commonly SPs are used to assess history taking and communication skills or physical examination where no abnormality is found.

Definition of standardised patients and simulated patients

The term 'standardised patient' is increasingly used to indicate that the person has been trained to play the role of the patient consistently and according to specific criteria. The terms standardised patient and simulated patients are sometimes used interchangeably. However, the simulated patient as defined by Barrows (1985) is "a normal person who has been carefully coached to present the symptoms and signs of an actual patient". Standardised patients, in contrast, are "people with or without actual disease who have been trained to portray a medical case in a consistent fashion. These people may portray their own problem(s) or ones based on those of other patients" (RCSA 1993). The term 'standardised patient' is a broader term which covers both real and simulated patients. It does not indicate whether the patient being dealt with or discussed is a real or simulated one.

The training and recruitment of simulated patients

The briefing and training of simulated patients is critical to the success of the programme. The extent of training required will vary with the use to which the SP is to be put.

Advantages of using simulated patients:

- The SP can be trained to respond more consistently in the examination than the real patient, can be duplicated to allow multiple examinations to be administered and is more standardised for use in different centres and internationally.
- The complexity of the presentation can be more easily controlled and matched to the stage of training of the student.
- The risk that the performance by the student during the examination may be disturbing to the real patient is not a problem with SPs.
- SPs may be more readily available than real patients and can be relied upon to be present at an examination.
- SPs can be used in situations where the use of a real patient would be inappropriate, e.g. counselling of a patient with cancer.
- SPs can be trained to assess the student's performance and to provide feedback to the student.
- SPs may tolerate more students in an examination than a real patient

Disadvantages of using simulated patients:

- Recruiting, training and organisation of SPs is time consuming.
- The cost of SPs may be substantially higher than 'real patients'.
- SPs do not duplicate the 'real patient'
- It is not possible to simulate many physical signs, for example, heart sounds, oedema, or a goitre.
- Opposition to the use of SPs may be voiced by some examiners and clinicians and the credibility of the examination may be questioned.

Patient substitutes

In some situations in a clinical examination, neither a real patient nor a simulated patient are appropriate and a patient substitute has to be used, These include:

- Video or sound recordings of a patient
- Simulators
- A computer simulation

Video recordings of patient interviews were initially introduced to enhance the learning of interview techniques and communication skills. The recording provides each candidate with a consistent scenario and enables important aspects of clinical competence to be assessed.

Simulators have a place in the assessment of clinical skills. They can be used at OSCE stations to assess physical examination techniques or practical procedures. Computer-based simulation of patients can be used as an assessment tool and has been developed for use in both formative and summative assessment.

3 Choice of patient representation

An important factor in the choice of approach is the role expected of the patient in the examination. This varies with:

- the aspect of clinical competence to be tested, and whether the emphasis is on the normal or the abnormal
- the level of interaction expected between the student and the patient
- whether the patient is expected to contribute to the rating of the students' performance

A second factor to be considered when choosing the type of patient representation is the level of standardisation required. Standardisation becomes an important issue in high stakes examinations administered to a large number of students.

Simulated patients are reproducible and can present students with the same challenge at different sites and at different times at the same site. This is useful if large numbers of students have to be assessed on the same tasks at the same degree of difficulty.

A real patient may be useful if few students are to be assessed.

A third important factor in the choice of patient representation in a clinical examination is the logistics. These include:

- availability of 'real' patients
- availability and experience with simulated patients
- availability of simulators
- costs

4 Hints on using patients in clinical assessment

Experience has shown, that many of the difficulties encountered with clinical assessment can be attributed to the neglect of some key factors.

Issues relating to real or simulated patients:

- Do not leave the selection of patients too late.
- Explain to patients what is expected of them in the examination and obtain their consent.
- Provide the patients with clear instructions regarding the examination.
- Advise the patients about appropriate dress.
- Provide the patients with the contact number of a named member of staff in case they are unable to attend the examination.
- Arrange reserve patients in case a patient is unable to participate.
- Simple courtesy and kindness to patients, will do much to ensure patients will participate in a relaxed and co-operative manner.
- At the end of the examination thank all patients for their help.
- Ask patients for any comments they might have on the conduct of the examination and on their own participation in it.

Issues specific to 'real' patients

- The doctor responsible for the care of the patient will usually be in the best position to recruit suitable patients.
- For each patient, produce a case précis which should include details of the patient's ability to give a clear history and the degree of certainty of their physical signs.
- Copies of x-rays, etc. and the results of laboratory or other investigations required for the examination must be prepared early.
- Do not use in the examination, patients who either through the severity of their illness or their personality are unsuitable.
- Current medications such as diuretics or frequent injections usually precludes patient involvement in the examination.
- Check that arrangements made for patient investigations and procedures do not conflict with the examination. Patient care should take priority over the examination.
- The use of outpatients has advantages and keeps ward disruption to a minimum.
- Communication with ward nursing staff is essential when using in-patients.
- Reconfirm the absence or presence of physical signs and the patient's history before the examination commences.

Issues related to simulated patients

- Recruit simulated patients from community volunteers, students, colleagues, acting groups or other groups such as teachers.
- Recruit simulated patients by word of mouth, through existing patients, from personal contacts and by advertising in the local paper.
- Select individuals who have the ability to portray the important clinical features of a patient's problem.

- Recruit trainers of simulated patients from healthcare professionals, particularly those with an interest in education. Trainers themselves should receive appropriate training.
- Direct observation of other trained patients or of real patients in live encounters, or video tape recordings of such events can assist with training.
- Meeting and talking to real patients with problems similar to those to be simulated is helpful and worth the effort needed.
- Simulated patients should be the same age and gender as the person they are expected to portray.
- Simulated patients may be encouraged to answer the less critical questions from their own experience and allowed to be inventive.
- The duration of training will vary with the task to be performed and the background of the person playing this role.
- Before a simulated patient is used in a high stakes examination, a doctor who is unfamiliar with the case should take a history from or examine the patient.

5 Conclusions

The need for some form of clinical examination is now widely accepted. No single test, however, assesses all the components of clinical competence and a combination of different methods is required. Central to the clinical examination is the observation of a candidate interacting with a patient and every effort should be made to retain and improve the validity and reliability of this process. The approach to the use of real patients, simulated patients or other patient representations using simulators or computers should be determined by the local circumstances and needs of the examination.

There may be a trade-off between the need for standardisation and the choice of real or simulated patients. The term 'standardised patient' is often wrongly equated with 'simulated patient'. Real patients can be standardised to an extent as described above but standardisation is easier to achieve with simulated patients.

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