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## Research paper

# Simulation of a clinical scenario with actresses in the classroom: A useful method of learning clinical delirium management

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#### ABSTRACT

Introduction: The use of simulated patients in the learning of geriatric syndromes is still infrequent. The value of this teaching method is based on individual interaction among the students and simulated patient; however, it has recently been acknowledged that observing a simulation (without actually intervening in it) can also be an effective way of learning. The usefulness of observing simulation of a geriatric syndrome by a group of students in a conventional classroom has not been assessed to date. Purpose: To ascertain the usefulness of a simulated clinical scenario in the classroom for teaching delirium management.

Methods: Sixty-eight students (29 from physiotherapy and 39 from medicine) observed a simulated scene and participated in a seminar on a case of delirium. The scenario depicted the interview of the daughter of a patient with delirium by a nurse and a doctor. Before and after attending the seminar, students answered a 4-question questionnaire on theoretical knowledge of delirium (score 0–7), two on subjective learning perception (linear scale: 0–10) (score 0–20) and, at the end, a further two questions on the usefulness of the scene in the learning process and on their overall opinion of the seminar (linear scale: 0–10). The questionnaires were corrected anonymously by experts in geriatrics unaware of whether the questionnaire was completed before or after the seminar.

Results: Scores of the theoretical questions on the questionnaires before and after the training action in the whole group of students were:  $3.5\pm1.4$  and  $6.4\pm0.7$  (P=0.001); subjective learning perception questions:  $10.5\pm3.5$  and  $16.2\pm3.5$  (P=0.001) and total score:  $14.0\pm4.3$  and  $22.4\pm4.1$  (P=0.001). The usefulness of the scene in the learning process and the overall opinions on the seminar were evaluated by the whole group of students, with mean scores of  $9.0\pm1.1$  and  $8.7\pm1.1$  out of 10 points, respectively.

Conclusions: 1. A simulated scene in the classroom and attending the seminar constitute a useful method that facilitates understanding of delirium management. 2. The simulated scene was evaluated very positively by the students.

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### 1. Introduction

The use of simulated patients has been shown to be a useful teaching method in health science education and in geriatric training programmes. This form of simulation is a tool that can be used for evaluation when applied in the OSCE format and as a learning tool when simulation is followed by feedback [1–4]. Its value as a teaching tool usually requires students to face the simulated patient individually and carry out an activity (e.g. a

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http://dx.doi.org/10.1016/j.eurger.2017.07.011 1878-7649/© 2017 Published by Elsevier Masson SAS. directed clinical history or physical examination). In this way, students learn an activity at the same time as they undertake it (concept of "hands-on training" or "learning by doing") [5,6]. When the number of students is large, the organisation of a simulation in accordance with this concept can be complex, rendering it difficult to adjust to time and calendar; all students go through the experience of simulation individually, taking an active part in it. Furthermore, the availability of teachers' time and actors hired for the simulation, in addition to the costs thereof, may also be limited. In this respect, other ways of rendering the use of simulated patients more efficient have been proposed.

Some authors suggested that students can also learn by watching the simulation without actively participating in it. This

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concept of learning by observing is also known as "vicarious learning" (learning on watching another) [7,8]. In a systematic review, O'Regan et al. found no significant differences in studies between what students directly involved in the simulation learned (interacting with a simulated patient) and those who only observed [8].

Based on these findings, the use of simulated patients in a clinical scenario to learn from observation might be considered. The advantage of this mode is that all students can observe the simulation at the same time with the appropriate feedback and discussion (debriefing). Furthermore, it may be an easy way to introduce simulation techniques into daily routine during the course. Similarly, the simulated clinical scenario can itself be a powerful stimulus to arouse students' interest and break the monotony of the classroom.

The possibility of staging simulated clinical scenarios to depict geriatric syndromes could constitute an original starting point for stimulating discussion with students; however, we found no previous publications that evaluated this way of representing geriatric syndromes in the classroom. Delirium (or acute confusional state) is one of the major geriatric syndromes [9–13]. The aim of the present study was to stage a clinical scene in the classroom simulating a case of delirium to evaluate its usefulness for students to learn to identify predisposing and precipitating factors of delirium, and establish measures for its prevention and management.

#### 2. Methods

Sixty-eight students from the Parc de Salut Mar university hospital, Barcelona (29 from physiotherapy and 39 from medicine) attended a two hour seminar (Parc de Salut Mar is a 1036-bed health care organisation [460 acute care hospital beds] in the city of Barcelona [Spain], and two universities [Universidad Autónoma de Barcelona and Universidad Pompeu Fabra]). The seminar consisted of an approach to a clinical problem in the form of a simulated scene followed by an interactive class in which students were asked open questions related to the case and their responses were discussed. At the beginning of the seminar, students were informed of what was to be done. They were provided with a written summary of the case to be simulated (Table 1) and a questionnaire with theoretical questions related to the understanding of

delirium (questions 1–4), and questions on the students' subjective learning perception regarding what they thought they knew about delirium (questions 5 and 6) were answered by the students (see Supplementary Appendix S1). The scene was simulated live in the classroom, after which open questions on the scene were asked and discussed (debriefing). The students were divided into groups and encouraged to give their answers; the teacher then provided the correct answers using a Powerpoint® presentation (learning feedback).

Students watched the scene in the same classroom where lectures are usually held. The simulated scene was titled "What's wrong with my father?" and involved three actresses. The daughter of a patient with delirium was worried because her father seemed to have gone crazy and had spent the night agitated and shouting. The interpretation showed a first scene when the daughter asked the nurse about what was happening to her father and the nurse explained that it was possibly delirium; she calmed her down and gave her specific instructions on how to manage the situation both in the hospital and at home (4 minutes). A second scene portrayed a lady doctor informing the patient's daughter about delirium, its predisposing factors, precipitating causes and possible treatments (6 minutes), and a third and final scene showed the nurse, doctor and daughter discussing the case after resolution of the process (3 minutes).

All three actresses were health professionals (two nurses and a doctor), belonged to the specialty of geriatrics and had knowledge and experience in delirium management. This ensured that the simulated scene was an accurate reproduction of real life. The seminar was repeated on two occasions, one for medical students and the other for physiotherapy students. At the end of the seminar, students again answered the same questionnaire as at the beginning, but with two new questions added: one on their opinion of the usefulness of the scene for learning (question 7) and the other on their overall opinion of the seminar (question 8). A linear scale from 0 to 10 points was used for questions 5, 6, 7 and 8 (see Supplementary Appendix S1).

An overall diagram of the seminar and details of teaching activity are shown in Fig. 1. Questionnaires were later corrected by experts in geriatrics (MJR; AE, MPF and MR) blinded to when they were completed (before or after the seminar). Correction criteria of theoretical questions had been previously established. According to what was considered important, an arbitrary score was assigned

 Table 1

 Summary of a simulated clinical case represented in the classroom.

Mr. Garcia, 80 years old, is admitted to an acute care hospital for pneumonia

Medical history

Hearing loss (uses hearing aid)

Prostatic syndrome treated with tamsulosine

Occasional mild memory impairment

Leads an autonomous, independent life, although he presents uneven gait owing to knee osteoarthritis and walks with a cane. He lives with family, but spends most of the day alone, as they work

Current status

He was admitted for pneumonia in the right hemi-thorax, and intravenous antibiotic treatment was started. On previous days, he had reported cough and had pleural pain in his right side and fever; he was started on antibiotic and expectorant treatment, both orally. However, owing to clinical worsening, he was brought to the hospital emergency room where he presented agitation, hallucinations, mistook his family members and even tried to jump over the rails of the gurney Second night: in a conventional hospitalisation unit

The patient did not sleep. Right side chest pain was uncontrolled. He tried to remove the serum drip and repeatedly sat up in bed. He was confused and agitated, and said the room was full of people. He was also disoriented and aggressive. Lorazepam was given but was ineffective, so subcutaneous midazolam was administered. In the last 13 hours, there was no spontaneous micturition

Examination at that time

Blood pressure:  $140/80\,\text{mmHg}$ , temperature:  $38\,^\circ\text{C}$ , heart rate:  $90\,\text{bpm}$ , respiratory rate  $24\,\text{rpm}$ 

Good general status but agitated and restless; no dyspnoea or cyanosis

Respiratory tract: crackles in the right hemi-thorax; cardio-circulatory system: rhythmic sounds, no murmurs, no oedemas; abdomen: soft and palpable, not painful, probably distended bladder; nervous system: conscious, time-and space-disoriented, no neurological deficit

Treatment at that time

Serum glucosaline 500 ml i.v./8 h, ceftriaxone 1 g i.v./24 h, enoxaparine 40 mg s.c./24 h, paracetamol 1 g i.v. if necessary, loracepam 1 mg at night, tamsulosine 0.4 mg/24 h

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