An assessment of the consistency and accuracy of standardized patients' simulations

VU, Nu Viet, STEWARD, D E, MARCY, M

PMID : 3681930
sented with the actual decisions, the reasons for these decisions, and the results in the original case, the students could judge their knowledge and ability to deal with authentic patient problems. This method for using written cases and several other teaching methods in the elective apply recent research in learning that suggests that instructional activities should require students to acknowledge their understanding in some concrete way so that any erroneous beliefs are confronted during learning (2–4).

Conclusion

The methods of instruction in the elective have resulted in effective learning and have received enthusiastic support from the students, with only a 34 percent reduction in clinic productivity during the elective. Although some of the methods described here may be specific to internal medicine or even to diabetes, many appear to have value for other medical disciplines. Medical education's unavoidable move toward teaching in ambulatory settings obliges educators to investigate the practicality and educational effectiveness of these and other approaches.

References


An Assessment of the Consistency and Accuracy Of Standardized Patients’ Simulations

Nu Viet Vu, Ph.D., David E. Steward, M.D., and Michelle Marcy

The simulated-standardized patient (1) has been extensively used for the purposes of teaching and evaluation (2, 3). For both purposes, the simulated-standardized patient (SP) is a live and interactive simulation of a patient problem. While the information provided in a written or computerized case simulation does not change with time and administration, one

Dr. Vu is an associate professor, Department of Medical Education; Dr. Steward is an assistant professor, Department of Medicine; and Ms. Marcy is an instructor, Department of Medical Education, and coordinator of the Simulated Patient Program; all are at the Southern Illinois University School of Medicine, Springfield.

of the major concerns for the users of the standardized patient is whether the information that is provided by the patient remains consistent and accurate across presentations. The purpose of the study reported here was to assess the accuracy of live simulations by different individuals simulating the same clinical problem and by individuals simulating the same problem at different times of the day.

Method

The study was conducted in 1985 at Southern Illinois University (SIU) School of Medicine at the end of the second-year curriculum dur-
ing the final practical examination of the Introduction to Clinical Medicine course. Seventy-two second-year students were each scheduled to conduct a 25-minute focused history and physical examination of a patient who presented with a chief complaint of “pounding in her chest.” In order to assess all 72 students individually in one day, six SPs were trained to simulate the same patient problem. The examinations were scheduled for an eight-hour period. The training of the SPs was conducted by a professionally trained coach of simulated patients in conjunction with the physician who provided the case of the original patient being simulated. The SPs were trained to simulate the history and physical findings consistent with the real patient’s findings and characterizing the problem. The SPs were instructed to use their own history and physical findings for those aspects of the history and physical examination on which they had not been coached. Once trained, the SPs were scheduled for a trial session during which each was examined by a resident in internal medicine and verified for accuracy by the physician who provided the case.

As a way to test whether the SPs were presenting accurate simulations, three of the six trained SPs were randomly selected to be interviewed, without their knowledge, by three third-year medical students at three different times during the day. The three selected SPs were designated as SP-1, SP-2, and SP-3. The times were: time 1, 7:45 a.m.; time 2, 11:45 a.m.; and time 3, 5:00 p.m. The three students were rotated so that at each of the scheduled times they encountered a different SP and so that by the last encounter they each had interviewed and examined all three SPs. Each of the three third-year students was introduced anonymously to the SPs as one of the second-year students taking the practical examination.

To assess the accuracy of the information provided by the SPs, the three third-year students were trained to conduct a standardized history-taking and physical examination. History-taking was standardized by providing the students with a checklist of 35 history questions and answers. The questions were listed in a logical order of questioning along with the respective answers that should be elicited from the SP. These history questions and answers were developed by the physician who provided the original patient case. The students were instructed to ask the history questions on the checklist in the order listed and to check off those answers that matched the ones provided by the SPs. They were also instructed to record all answers provided by the SPs that did not match the ones on the checklist. The physical examination was standardized by having each of the students perform three procedures: do a Weber test, check for Romberg’s sign, and test the patient’s gait. All observed physical findings were recorded by the students.

Results and Conclusions

Due to a scheduling conflict, one of the student-SP encounters was not conducted, and thus only eight of the nine possible encounters were reported.

Overall, the number of incorrect history findings provided by the SPs was minimal, ranging from none (0 percent) to a maximum of four (11 percent) of the listed findings. In six of the eight patient encounters, the physical findings presented by the SPs were found to be 100 percent correct. In history findings, the information obtained from the three SPs at each of the three times was highly accurate. On a total of 35 history findings, the number of correct findings ranged from 33 to 34 (94 to 97 percent) at time 1; 31 to 35 (86 to 100 percent) at time 2; and 32 to 34 (91 to 97 percent) at time 3. The presentation of physical findings by the three SPs was also accurate and consistent at each of the three times: no incorrect findings at time 1, and zero to 1 incorrect finding at time 2 and also at time 3. It was found that the single incorrect finding at times 2 and 3 was demonstrated by the same SP. In other words, while two SPs presented the physical findings accurately at all three times, one SP did not.

The consistency and the accuracy of information provided by each SP over time were also high. For the history, the number of correct findings ranged from 33 to 35 (94 to 100 percent) for SP-1, 32 to 34 (91 to 97 percent) for SP-2, and 31 to 33 (86 to 94 percent) for SP-3. In the physical examination, the correct
findings were 3 out of 3 (100 percent) for SP-1 and SP-2 and were 2 or 3 (67 to 100 percent) for SP-3. These overall results indicated that the information provided by SP-1 and SP-2 were consistently accurate while that provided by SP-3 were consistently less accurate. This last finding suggested that the quality of a simulation may be a function of the individual selected for the simulation. Given that minor inaccuracies could occur in live simulation, it is important to observe SPs frequently and adjust the simulation and, in the extreme, to modify the scoring of students' performance accordingly to account for inaccuracies in the simulation.

Given the limited number of observations, the present findings suggested that when different individuals are properly coached to simulate a patient problem, they can perform the simulation accurately and with a high degree of consistency even after repeated presentations during the course of a day. These findings can be further validated if the same study design could be applied to a large sample of patients and further improved by videotaping all student encounters so they can be reviewed for students' accuracy in recording information and hence for accuracy of the simulations themselves.

These findings are relatively important, since they may affect how best to schedule the SPs so that repetition and fatigue do not affect the accuracy of simulations. The schedule used for testing second-year medical students at SIU had each SP see a student every 25 minutes, with a 15 minute break after the third and ninth student and an hour for lunch after the sixth student. Each SP saw a total of 12 students in one day. Based on the results reported here, the authors suggest that 12 may be the maximum number of students an SP should encounter in one day. With appropriate coaching and use, the simulated-standardized patient can provide faculty members with a powerful and accurate technique to simulate and standardize live presentations of a case problem.

References


Deans' Attitudes Toward Teaching Psychopharmacology And Rational Prescribing in Medical Schools

E. M. Sellers, M.D., Ph.D., Richard Wakeford, and Gail Somer

It is widely recognized that modern drugs have played a major role in the revolution that has taken place over the last 40 years in the care of the mentally ill. The number of psychiatric patients requiring prolonged stays in hospital has been reduced, and treatment has become more humane. However, psychoactive drugs have not been free of problems. Concern from inside the health professions and elsewhere has been widespread and has resulted in many attempts to make prescribing of these substances more rational (1–5). In this context, rational prescribing is logical prescribing sup-