Evaluation of the use of a Virtual Patient on Student confidence in performing physical assessment skills

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Background

Course Background:
- Longitudinal experience in the P3 year
- Emphasizes the pharmacist as the primary provider of pharmaceutical care
- Didactic and laboratory experiences focus on advanced aspects of pharmacy practice, including patient counseling, the exploration of complex patient care issues, and self-directed learning

Physical Assessment Course Objectives:
- Interpret patient specific laboratory data as a component of patient monitoring and assessment
- Formulate an outcome-focused pharmaceutical care plan for a patient, based on patient-specific information
- Identify, analyze and resolve complex clinical dilemmas
- Perform selected aspects of a physical exam

Objective

To assess PY3 student impressions about interacting with a Virtual Patient, and confidence in their ability to complete a patient health history and perform physical assessment

Methods

- Three activities were assigned using a Virtual Patient computer program through Shadow Health® Digital Clinical Experience : an orientation, a health history and a pulmonary module
- Students were surveyed prior to the activity and then again after the last assignment using a 5-point Likert scale

Results

Two hundred ninety two students of 334 enrolled completed the pre activity survey and 276 students completed the post activity survey

Survey Item | Pre and Post Activity Responses (%) | Pre-Activity | Post-Activity
--- | --- | --- | ---
I am confident in my ability to take a complete patient history. | Strongly Agree | Agree | Neither Agree nor Disagree | Disagree | Strongly Disagree | Pre-Activity | Post-Activity
I am confident in my ability to perform physical exams. | Strongly Agree | Agree | Neither Agree nor Disagree | Disagree | Strongly Disagree | Pre-Activity | Post-Activity
I am confident in my ability to perform physical exam tests. | Strongly Agree | Agree | Neither Agree nor Disagree | Disagree | Strongly Disagree | Pre-Activity | Post-Activity
I am confident in my ability to identify normal and abnormal findings. | Strongly Agree | Agree | Neither Agree nor Disagree | Disagree | Strongly Disagree | Pre-Activity | Post-Activity

Virtual patients realistically simulate a real patient.

Results, Continued

Student responses of “agree” or “strongly agree” were conglomerated for comparison between pre and post activity surveys

Pre activity versus post activity survey results:
- Complete patient history: 86% vs. 79% (p<0.001)
- Complete physical exams: 36% vs 30% (p<0.001)
- Perform physical exam tests: 31% vs 28% (p=0.032)
- Ability to identify normal/abnormal findings, 75% vs 68% (Not significant)

Forty percent of students “agreed” or “strongly agreed” that virtual patients realistically simulate a real patient in the pre survey before the activity versus 75% after the activity (p<0.001)

Implications

While the virtual patient is regarded as realistic simulation, students reported decreased confidence in performing physical assessment skills following use. Findings may be a consequence of underestimation of case complexity or may reflect limited practical experience. Incorporating the virtual patient into curricula may augment existing simulation-based teaching, presenting a more realistic clinical scenario, relative to practice.

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