Using Simulation to Improve Mastery of Medical Ethics Content and Student Confidence.

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Description

In this pilot project, second-year medical students volunteered for a standardized patient (SP) encounter involving an ethical concept. We evaluated how the participating students compared to matched classmates on multiple-choice questions on an exam. We also evaluated student confidence with a survey tool before the SP encounter and after the debrief session.

The Challenge/Issue

- Medical education has transformed toward more adult learning activities, such as flipped classrooms and using the contact hours with students for the application of concepts.
- Ethical concepts are still evaluated in licensing exams in a MCQ format.
- In our search of the literature, there were no publications looking at performance on MCQ of ethical concepts after a simulation versus no simulation.

Objective

Evaluate the efficacy of using simulation with standardized patients to improve (1) mastery of ethical concepts and their application to clinical scenarios, and (2) student confidence in dealing with ethical issues in a clinical setting.

Acknowledgements

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Approach

- Three simulated patient encounter labs were executed over the course of the academic year, each one following its corresponding didactic lecture.
- The topics were informed consent, surrogate decision-making, and medical futility. The labs included an orientation, pre-survey, 15-minute encounter with a standardized patient or patients (one of the labs included a mechanical simulator as an unconscious patient), a 30-minute debriefing session with faculty, and a post-survey.
- A total of 17 students (N=17) participated in the labs, forming the experimental group; a control group was selected from the remainder of the 2nd-year class that did not participate in the encounter labs. These students were matched as closely as possible with the experimental group based on the following criteria:
  - Has the exact gender of their experimental group counterpart
  - Has a GPA within 1 percentage point of their counterpart
  - Has the same in-state/out-of-state status
  - Has the same Under-represented minority status
- Scores on 15 multiple-choice questions relating to ethical topics of informed consent, surrogate decision-making, and medical futility were selected from the 2 corresponding course examinations.
  - Six questions were included in a Team Based Learning assessment on the individual and team readiness assurance tests.
  - Nine questions were included on course exams.
- A pre-encounter survey utilizing a 5-point Likert scale was administered before the Standardized Patient interaction. Student participants were asked to:
  - self-assess their knowledge regarding ethical concepts
  - rate their comfort in applying ethical concepts to a patient encounter

Results

- There were no significant differences between the experimental group and the control group on performance on 15 multiple-choice questions.
- The surveys before and after each lab showed a significant improvement in their perception of knowledge of the concepts and their comfort with applying the concepts to the patient encounter.

Results (cont):

<table>
<thead>
<tr>
<th>Question</th>
<th>Text</th>
<th>Mean</th>
<th>N</th>
<th>p-value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>How valuable was this experience in understanding and applying the process of informed consent?</td>
<td>4.00</td>
<td></td>
<td></td>
<td>Significant</td>
</tr>
<tr>
<td>2</td>
<td>Did the lab increase your knowledge of describing the elements of informed consent?</td>
<td>4.00</td>
<td></td>
<td></td>
<td>Significant</td>
</tr>
<tr>
<td>3</td>
<td>Did the lab increase your knowledge of recognizing whether or not a patient has capacity to give informed consent?</td>
<td>4.50</td>
<td></td>
<td></td>
<td>Significant</td>
</tr>
<tr>
<td>4</td>
<td>Did the lab increase your knowledge of understanding of decision-making with a patient the patient seemed unaware of?</td>
<td>4.00</td>
<td></td>
<td></td>
<td>Significant</td>
</tr>
<tr>
<td>5</td>
<td>Did the lab increase your knowledge of obtaining written or verbal informed consent?</td>
<td>4.50</td>
<td></td>
<td></td>
<td>Significant</td>
</tr>
<tr>
<td>6</td>
<td>The overall experience was concluded to be successful in my Standardized Patient Encounter</td>
<td>4.00</td>
<td></td>
<td></td>
<td>Significant</td>
</tr>
<tr>
<td>7</td>
<td>The Standardized Patient Encounter provided a good broad base for learning in the aspects of determining and obtaining informed consent</td>
<td>4.50</td>
<td></td>
<td></td>
<td>Significant</td>
</tr>
<tr>
<td>8</td>
<td>My Standardized Patient was convincing and realistic in their portrayal of a patient incapable of giving informed consent</td>
<td>5.00</td>
<td></td>
<td></td>
<td>Significant</td>
</tr>
<tr>
<td>9</td>
<td>The lab increased my overall knowledge of the process necessary to obtaining consent</td>
<td>5.00</td>
<td></td>
<td></td>
<td>Significant</td>
</tr>
</tbody>
</table>

Conclusion:

- Further research of the efficacy of using patient encounters may be warranted since there was a slight improvement in the scores of the experimental group, though not statistically significant.
- Multiple factors may have influenced student performance on the MCQs.
- Although the pilot study was small, we are encouraged by the improvement in confidence with ethical concept knowledge and utilization in a patient interaction.
- Typical of simulation, the debrief sessions provided opportunity for additional learning.

Bibliography