Using Standardized Patients and Video Reflection to Improve Communication Skills in Undergraduate Nursing Students

School of Nursing

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Disclosures/Objectives

• Carla Nye and Genevieve Beaird report no conflicts of interest.

• Upon completion of this presentation, participants will be able to:
  – Discuss current evidence regarding video reflection in simulation.
  – Outline design and methodology for research study aimed at improving communication skills.
  – Describe impact of video reflection on communication skills for undergraduate nursing students.
  – Discuss implications of video recording review on simulation best practices.
Introduction

Advocate

Educator

Communicator

https://upload.wikimedia.org/wikipedia/commons/6/60/Become_a_nurse.jpg
Women’s Health Simulations

• Outpatient Simulations
  – 8 weeks: unexpected PG
  – 28 weeks: Gest. Diabetes

• Inpatient Simulations
  – Delivery
  – Postpartum Hemorrhage
  – Cold baby/breastfeeding

• Outpatient Simulations
  – 6 weeks PP: Depression
  – 2 years later: Miscarriage

http://farm7.static.flickr.com/6163/6188560089_d71e158a6d.jpg
Simulation and Communication Skills: Literature Review

- Video Assisted Debriefing
- Communication Skills
- SP Simulation
- SP Feedback
Communication Skills

Video Assisted Debriefing

SP Simulation

SP Feedback
Post Simulation Self-Reflection and Communication Skills

- Video Assisted Debriefing
- Communication Skills
  - SP Simulation
  - SP Feedback

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Research Questions

• What is the alignment between student self-evaluations and standardized patient evaluations?

• How do video reflective practices impact changes in communication scores over a series of four simulations?

• What is the dosage of video review and reflection required to improve student performance?
Design

• Prospective, repeated-measures, survey based study.
• Randomized groups
  – 7 non-video reflection
  – 6 video reflection
• $N=94$ undergraduate nursing students over 2 semesters
Macy Communication Scale

• 17-item survey

• Evaluates opening, information gathering, relationship development, education, and organization.

• Scoring: 3 levels of achievement for each item.

<table>
<thead>
<tr>
<th>Item</th>
<th>Needs Improvement</th>
<th>Progressing</th>
<th>Satisfactory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Started with open ended questions</td>
<td>Started with closed, yes/no questions</td>
<td>Began with open ended questions but stopped prematurely</td>
<td>Started with open ended questions and continued using them as appropriate</td>
</tr>
</tbody>
</table>
Standardized Patient Training

• Standardized Patient Actors
  – Standardized training for inter-rater reliability
  – Trial simulations completed for consistency in presentation

• Macy Communication Scale completed after each student interaction.
Experimental:

1. Demographics + Video + SP Macy + Self-eval Macy

2. First Prenatal Care Appointment Simulation

   - 28 week appointment - Gestational Diabetes Diagnosis
   - 6 week post-partum appointment - Post-Partum Depression
   - 2 year post delivery - early miscarriage loss

Control:

1. Demographics + SP Macy + Self-eval Macy

2. SP Macy + Self-eval Macy

3. Open Ended Questions + SP Macy + Self-eval Macy

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# Methods of Analysis

<table>
<thead>
<tr>
<th>Specific Aim</th>
<th>Statistical Analysis</th>
</tr>
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<tbody>
<tr>
<td>Determine correlation between students’ self-evaluation of their behaviors and an evaluation by a standardized patient actor.</td>
<td>Correlation adjusted for repeated measure/longitudinal nature of data collection using a Mixed Linear Model (MLM)</td>
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<tr>
<td>Comparison of SP Macy Scores between the two study groups over time</td>
<td>Repeated Measures Analysis of Variance (RM-ANOVA) using a MLM</td>
</tr>
<tr>
<td>Comparison of SP Macy Scores between the two study groups over time adjusted for student demographic covariates</td>
<td>Repeated Measures Analysis of Covariance (RM-ANCOVA) using a MLM</td>
</tr>
</tbody>
</table>
Results – Aim 1
Correlation between Student and SP Macy’s Scores

• The correlation coefficient calculated in this manner was 0.4505
  – As SP Macy Scores increase so do Student Macy scores

• This represents a statistically significant relationship between the Student Macy Scale Scores and the SP Macy Scale Score ($F_{1,361} = 8.99, P < 0.0001$)
Results – Aim 2

Comparison of SP Macy Score over Time: Video vs No-Video Group

• There was no statistically significant difference between the groups ($F_{1,92} = 1.76$, $p = 0.1874$)
Results – Aim 2
Comparison of SP Macy Score over time: Video vs No-Video Group

There was a statistically significant time effect ($F_{3,278} = 5.78, p = 0.0008$)

Changes in Macy Scores Over Time

![Graph showing changes in Macy scores over time for Video and No Video groups.](image)
Results Aim 3
Controlling for covariates

- Adding in covariates maintained similar results.
- After controlling for semester and previous work or communication training experience:
  - No statistically significant difference between the groups ($p=0.3006$)
Results Aim 3

Controlling for covariates

There was a **statistically significant time effect** ($p=0.0013$).

![Graph showing changes in Macy scores over time with error bars for both No Video and Video conditions.]
Strengths

• Role of Research Office
• Relationship with Standardized Patient Actor group through School of Medicine
• Funding support
• Video recording/production support
Limitations

• Intervention integrity/student compliance
• Variations in standardized patient actors
• Scenario content progression
Conclusions/Implications

• Deliberate practice can help improve communication skills.

• Standardized patient actor feedback probably has a very important role in students’ improvement.

• More research needs to be completed to determine how video reflection/debriefing impacts performance improvement.

• Appears to be a dose effect of 1 simulation.
Future Research

• Thematic analysis of qualitative data.
• Strategies for better adherence with video reflection.
• Sustainability of improvement in communication behaviors over time and across content areas.
Acknowledgement

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Questions
REFERENCES


Foster, A., Chaudhary, N., Kim, T., Waller, J.L., Wong, J., ... Buckley, P.F. (2016). Using virtual patients to teach empathy: a randomized controlled study to enhance medical students’ empathetic communication. Society for Simulation in Healthcare. 00(00).


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