

BRIEF REPORT

Strengthening student communication through pediatric simulated patient encounters

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Abstract

As medical students enter the role of physician, clinical outcomes not only rely on their mastery of clinical knowledge, but also on the effectiveness in which they can communicate with patients and family members. While students typically have numerous opportunities to practice clinical communication with adult patients, such practice in pediatric settings is limited. This study examines if simulated patient (SP) encounters strengthen third-year medical students' communication skills during the pediatrics clerkship. During 2011-2013, three SP encounters (comprising 3 pediatric scenarios) were incorporated into a pediatrics clerkship at one United States medical school to give students a safe venue to practice advanced communication with observation and direct feedback. Third-year medical students engaged in the scenarios and received both written and oral feedback from an evaluator observing the encounter. With IRB approval, students' self-perceived confidence and abilities at performing the advanced communication skills were measured using an eight-item, Likert scale questionnaire administered pre and post the SP encounter. Pre- and post-questionnaires ($n = 215$; response rate, 96%) analyzed using a Wilcoxon-matched pairs signed-rank test demonstrated statistically significant increases in students' perception of their confidence and abilities regarding their performance ($P < 0.05$; Bonferroni correction, $P < 0.006$). There was an increase in student confidence and self-perceived ability in: first, communicating with children and family members of young patients; second, managing confrontational situations involving parents; third, performing a thorough psychosocial history with an adolescent; and fourth, using Evidence Based Medicine to motivate parents.

Key Words: *Communication; Pediatric clerkship; Simulated patient encounters*

As medical students enter the role of physician, clinical outcomes not only rely on their mastery of clinical knowledge, but also on the effectiveness in which they can communicate with patients and family members. While students typically have numerous opportunities to practice clinical communication with adult patients, such practice in pediatric settings is limited. However, the skill of effectively communicating with children, adolescents, and parents is as important as in adult

medicine. Many parents are apprehensive about the medical care of their children and effective communication is essential to provide quality care. Students often indicate talking with families during their pediatrics clerkship is a challenging endeavor. While effective communication is an essential skill for a physician, many medical students, residents, and attending physicians struggle to do so [1]. In addition to communicating ideas, students also struggle with managing emotion during patient interviews [2]. The limited amount of patient and family interaction, along with the precise communication it takes to care for pediatric patients presents a significant learning gap that can be addressed during the pediatrics clerkship. It has also been demonstrated in the literature medical stu-

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dents show a significant decline in empathetic attitudes as they progress through medical school and students overestimate their empathetic abilities [3,4]. Deliberately practicing clinical communication and receiving feedback are effective learning strategies for medical students [2,5-7].

This study examines the following research question: Do simulated patient (SP) encounters strengthen third-year medical students' communication skills during the pediatrics clerkship? We hypothesized that by providing communication-based SP encounter experiences during the pediatrics clerkship, medical students will strengthen their communication abilities through deliberate practice and immediate feedback.

In order to address the problem of effective communication, a SP encounter (comprising 3 pediatric scenarios) (Appendix 1) was incorporated into a pediatrics clerkship at one United States medical school to give students a safe venue to practice advanced communication with observation and direct feedback. The goal of the intervention was to require a balance of content mastery and advanced communication ability in order to complete the encounter successfully. The three pediatric scenarios were designed to represent common, realistic patient encounters intended to challenge students within their scope of expertise: an adolescent psychosocial history, a parent worried about her child developing autism from the measles, mumps and rubella (MMR) vaccine, and a child with worsening asthma whose divorced parents blame each other for recent exacerbations. During 2011-2013, one-half day per pediatric clerkship rotation was allocated for the SP encounter. Third-year medical students engaged in the scenarios and received both written and oral feedback from an evaluator observing the encounter. Following the encounter and with a facilitator present, students were given the opportunity to discuss the experience with each other to discuss what was challenging and how their colleagues approached these situations. Volunteer SPs underwent a one-hour training session prior to the experience. Both fourth-year medical students and pediatric and medical education faculty were trained as evaluators and provided feedback to students undergoing the experience.

With institutional review board approval, students' self-perceived confidence and abilities at performing the advanced communication skills were measured using an 8-item, Likert scale questionnaire administered pre and post the SP encounter (1, not comfortable; 10, comfortable) (Appendix 2). Pre- and post-questionnaires (n = 215; 2011-2012, 108; 2012-2013, 107; response rate, 96%) were analyzed using a Wilcoxon-matched pairs signed-rank test demonstrated a statistically significant increase in students' perception of their confidence and abilities regarding their performance (P < 0.05, Bonferroni correction P < 0.006) (Table 1).

Increases occurred in student confidence and self-perceived

Table 1. Results of Wilcoxon signed-ranks test for pre- and post-questions (n = 215)

| Question | Pretest mean | Posttest mean | Z-score | P-value ^{a)} |
|---------------------------------|--------------|---------------|---------|-----------------------|
| General comfort | 7.67 | 8.20 | -6.61 | < 0.001 |
| General ability | 7.14 | 7.96 | -7.76 | < 0.001 |
| Conflict comfort | 5.96 | 7.56 | -10.20 | < 0.001 |
| Conflict ability | 5.86 | 7.58 | -10.48 | < 0.001 |
| Psychosocial history comfort | 7.16 | 8.14 | -8.01 | < 0.001 |
| Psychosocial history ability | 6.83 | 7.90 | -7.98 | < 0.001 |
| Evidence-based medicine comfort | 5.91 | 7.34 | -9.69 | < 0.001 |
| Evidence-based ability | 5.65 | 7.18 | -9.97 | < 0.001 |

^{a)}Significant value: P < 0.006.

ability in: (1) communicating with children and family members of young patients; (2) managing confrontational situations involving parents; (3) performing a thorough psychosocial history with an adolescent; and (4) using evidence-based medicine to motivate parents. Student feedback suggests they perceive the intervention as a valuable educational experience. As medical students experience new and different patient scenarios during their clerkship years, the maturation of their confidence and communication abilities is instrumental in their development as a clinician. An area for future research could involve structured clinical observations of students during live patient/parent interactions both prior to and following the simulated patient experience to investigate how this self-perceived confidence translates into clinical skills.

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CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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SUPPLEMENTARY MATERIAL

Audio recording of the abstract.

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Appendix 1. Cases

Case #1. MMR vaccination

A 24 y/o single, educated, mother is hesitant to have her 12 mo daughter vaccinated for measles, mumps and rubella (MMR) due to concerns of her developing Autism

Student Objectives: To discuss the actual risks and benefits of the MMR vaccine and to debunk the link the between the MMR vaccine and Autism by describing recent medical literature on the topic.

Case #2. Parental conflict

A 7 y/o boy has been having more frequent asthma exacerbations and his divorced parents are arguing in the office over the situation and both are potentially at fault.

Student Objectives: To manage the interview effectively keeping the patient's interest and not the parental issues at the center of the discussion.

Case #3. Adolescent psychosocial history

A 16 y/o healthy female (or male), from a middle-class background, comes to the office for a sports physical. The patient's social history is significant for increasing marijuana use, occasional sexual intercourse, and brief periods of depression in her past.

Student Objectives: To gain the trust of the patient and to complete a thorough psychosocial history with interventional guidance as appropriate.

Appendix 2. Pre- and post-questionnaire

Q1. Please rate your comfort level in communicating with parents and family members of young children.

1 2 3 4 5 6 7 8 9 10
Not comfortable Very comfortable

Q2. Please rate how effective you are at communicating with parents and family members of young children.

1 2 3 4 5 6 7 8 9 10
Not effective Very effective

Q3. Please rate your comfort level in managing a confrontational situation involving family members with differing opinions.

1 2 3 4 5 6 7 8 9 10
Not comfortable Very comfortable

Q4. Please rate how effective you are at managing a confrontational situation involving family members with differing opinions.

1 2 3 4 5 6 7 8 9 10
Not effective Very effective

Q5. Please rate your comfort level in completing a psychosocial (HEADSS) assessment with an adolescent.

1 2 3 4 5 6 7 8 9 10
Not comfortable Very comfortable

Q6. Please rate how effective you are at completing a psychosocial (HEADSS) assessment with an adolescent.

1 2 3 4 5 6 7 8 9 10
Not effective Very effective

Q7. Please rate how comfortable you are at using Evidence Based Medicine when motivating patients.

1 2 3 4 5 6 7 8 9 10
Not comfortable Very comfortable

Q8. Please rate how effective you are at using Evidence Based Medicine when motivating patients.

1 2 3 4 5 6 7 8 9 10
Not effective Very effective