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SELECTED RESEARCH AND INNOVATION ABSTRACTS

DO CHILDREN AND PARENTS HAVE DIFFERENT EXPERIENCES WITH THE SAME PEDIATRICIAN? A COMPARISON OF PARENT AND CHILD RATING OF THE DOCTORS' COMMUNICATION SKILLS

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Introduction: Physician-parent-child interactions often rely on the parent-physician conversations to make decisions about the child. In pediatric settings, the role of the child in medical conversations is important yet the opinions of the child are rarely solicited¹. This longitudinal study sought to compare parent-child rating of a doctor's communication skills and how that changed over time.

Methods: Mother-daughter pairs were recruited and trained as standardized patients to participate in two scenarios (exercise induced asthma and the onset of diabetes). The children (8–12 years-old) portrayed a 12 year-old patient. The mother and child evaluated the medical student's communication skills using a 10-item instrument adapted from the ABIM patient satisfaction instrument. Descriptive and multivariate analyses were conducted. Additionally, a communication direction analysis was done by four trained coders on 30 randomly selected videos to determine how that affected mother - child ratings of the medical student. Finally, a textual analysis of comments was done to identify issues that may affect the parent-child rating of the doctor's communication skills. A total of 406 medical students participated over three years (2006–2009).

Results: The scores were generally skewed towards favorable ratings. The children rated the medical students significantly higher than the mothers on four items: the doctor's perceived confidence ($p = .000$), being treated with respect ($p = 0.001$), not feeling judged ($p = 0.03$) and the doctor not interrupting the conversation ($p = 0.01$). The communication direction analysis indicated no significant difference in mother - child ratings although the conversation was largely directed at the child. The themes that emerged from the textual analysis were: the need to use appropriate terminology with children, the need to balance the conversation between parent and child, and the need to demonstrate confidence. Although the children rated the doctors higher than parents, the child ratings of the doctors had significantly decreased ($p < .05$) and were closer to the parent ratings by year three.

Conclusions: Although there were differences in mother - child rating of the doctor on some aspects of communication skills, there appears to be some parental influence on the child's perception over a period time.

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THE INFLUENCE OF A DIAGNOSTIC REMINDER SYSTEM ON CLINICAL REASONING DURING SIMULATED ENCOUNTERS

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Introduction: One suggested strategy to minimize diagnostic error is to integrate a diagnostic reminder system (DRS) at the point of care (1). Specifically, a DRS is an informatics tool that allows a clinician to efficiently search a medical database and use the data gathered to inform diagnostic decisions (2). Incorporating a DRS into simulated training encounters offers the potential to help students improve their diagnostic accuracy and learn how to effectively use informatics tools that will be available to them in practice. However, it is unclear if students possess the clinical judgment to use sophisticated informatics tools due to their clinical inexperience (3). This study explored the influence of Isabel PRO, a web-based DRS, on student diagnostic accuracy during simulated training encounters.

Methods: Diagnostic accuracy was assessed in 20 fourth-year medical students during four simulated case scenarios. After seeing each case, students were asked to submit a list of diagnostic hypotheses *prior* to using the Isabel PRO software (Pre-Isabel DDx). Students then were given access to Isabel PRO and asked to submit a final list of diagnostic hypotheses (Post Isabel DDx). The accuracy of Pre- and Post- Isabel DDx were independently scored and compared using paired t-testing. A follow up survey and focus group identified student perception toward the use of a DRS in educational settings.

Results: Diagnostic accuracy significantly improved in three of the four cases and for the combined four-case exercise after using Isabel PRO ($p < 0.05$). The fourth case demonstrated improvement, but it was not statistically significant. Students found the software relatively simple to learn, felt that it helped them reflect on diagnostic options that they had not originally considered, and valued the opportunity to use the software in conjunction with simulated cases.

Conclusions: Despite limited experience, students were able to effectively use a DRS to improve their diagnostic accuracy during simulated case studies. Use of a DRS within the context of a patient case appear to represent a distinct clinical skill set requiring appropriate training. Providing learners with gold standard examples of how to best use a specific informatics tool within specific clinical situations is an essential learning component. Simulated case scenarios offer an appropriate platform for introducing diagnostic support tools to learners within a clinical context.

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ARE MEDICAL SCHOOLS' CLINICAL SKILLS EXAMINATIONS (CE) PREDICTIVE OF STUDENTS' PERFORMANCE ON USMLE STEP 2CS? RESULTS OF A MULTI-INSTITUTIONAL COLLABORATION SUPPORTED BY ASPE

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Introduction: Studies to date have not determined whether school-specific CEs are predictors of Step 2CS (Clinical Skills) performance. Our objective was to identify predictors of passing Step 2CS.

Methods: With ASPE funding, we constructed a multi-institutional database for our schools' 2006–2008 graduates, including gender, race/ethnicity, school type (public/private), 3-digit first-attempt USMLE Step 1 and Step 2CK (clinical knowledge) scores, clerkship-grade-point average (GPA), total Clinical Exam (CE-overall), and CE-component scores for each of history (CE-HX), physical exam (CE-PE), and interpersonal communication (CE-IC), and first-attempt Step 2CS results (pass/fail). All school-specific CEs were conducted at the end of required clerkships, involved multiple standardized-patient encounters, and were scored using the three components above. T scores (Mean=50, SD=10) were calculated within schools for each of GPA and CE scores to equate scores across schools. Two logistic regression models examined the significance of associations between passing Step 2CS and predictor variables of interest, including gender, race/ethnicity, school type (public/private), Step 1 score, Step 2CK score, GPA, and either CE-overall score (but not CE-component scores) or the three CE-component scores (but not CE-overall score). Adjusted odds ratios (ORs) and 95% confidence intervals (CIs) are reported. Two-sided p-values <.05 were considered significant.

Results: Our sample, which included 1,443 graduates (79.6% of 1,812 total graduates), was 52.7% male and 66.3% private institution. Twenty-eight (1.94%) of 1,443 graduates failed Step 2CS. In the regression model with CE-overall score, students with higher CE-overall scores were more likely to pass Step 2CS (OR: 1.08, CI: 1.04–1.12). In the regression model with three CE-component scores, students with higher CE-PE and higher CE-IC were more likely to pass Step 2CS (OR: 1.04, CI: 1.01–1.08, for each).

Conclusions: CE performance, but not demographic or other academic measures, predicted passing Step 2CS. Although associations were modest, higher CE-PE and CE-IC scores each predicted Step2CS success, confirming the multi-dimensional nature of CEs and importance of measuring both physical examination and communication skills. CE performance can help identify students at risk for difficulty with Step 2CS. Schools might consider using CE performance data to provide remediation for students to enhance clinical skills prior to taking Step 2CS.

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HYBRID SIMULATION TO ASSESS PELVIC EXAMINATION SKILLS OF SECOND-YEAR MEDICAL STUDENTS

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Introduction: Competent performance of the pelvic examination is a critical skill for graduating medical students, and the AAMC recommends that students *starting* clerkships be able to perform a pelvic exam at an "advanced beginner" level¹, yet second-year students have little opportunity to practice pelvic exam skills on real patients². We believed that incorporating a pelvic exam station into the second-year final OSCE would motivate students to take advantage of practice opportunities and be better prepared for the ob-gyn clerkship.

Method: We developed a hybrid standardized patient (SP)-task trainer OSCE station to evaluate pelvic exam communication and technical skills. The 15-minute encounter simulated a routine pelvic exam. We employed a standardized patient for the communication portion and a mannequin for the technical skills. We instructed the SP to express mild anxiety over the examination, to ask what the student would do during the pelvic exam, and to inquire whether it would be uncomfortable. For the exam portion, the SP broke character; she then assessed students' technical performance of the pelvic exam. At the end of the encounter, students were asked to identify a cervical abnormality from a set of images. The mannequins were available for practice prior to the exam. Students then were assessed at the beginning of their third-year clerkship and compared to a historical control group of students who had not undergone the M2 OSCE assessment.

Results and Conclusions: The hybrid station was easily understood by students and SPs. The mean score was 87%. Many students took advantage of practice time with the simulators prior to the OSCE. On the 20-item checklist, the most common errors were failing to inform the patient that the uterus and ovaries would be examined (44%) or that the vagina and cervix would be examined (41%); not initiating contact with neutral touch (25%); not talking before touch (20%); and improperly positioning the hands for the bimanual exam (20%). The station was cost effective; it cost \$2675 to run this station with standardized patients compared to an estimated \$8000 that would have been required to hire professional patients to undergo pelvic examination. There was no change in students' self-reported preparation to perform a pelvic examination or in their overall skill in pelvic exam on day one of the ob-gyn clerkship compared to students the year prior.

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PATIENT CHAMPION CUSTOMER SERVICE TRAINING

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Introduction: Hospitals are more commonly evaluated on the level of customer service satisfaction now that scores are available to the public through the Hospital Consumer Assessment of Healthcare Provider and Systems (HCAHPS) initiative. Phase 1 of the Patient Champion initiative specifically targets the patient satisfaction questions "Friendliness/courtesy of the person serving your food" and "Friendliness/courtesy of the person cleaning your room." Patient Champion Customer Service graduates are non-clinical staff having direct interaction with patients on a daily basis.

Project Description: Potential Patient Champions complete simulation-based training in the Clinical Simulation Center. Activities include: 1) A pre-quiz within the individual's department to achieve eligibility for Patient Champion training. 2) A pre-simulation survey asking general demographics and prior knowledge about learner's area of patient service. 3) Digitally recorded interaction with a Standardized Patient (SP), who acts out a variety of scenarios likely to occur when interacting with patients and visitors. 4) Completion of an electronic version of the same quiz that was required as entrance for comparison of knowledge of proper scripting and accepted actions of requests by a patient. 5) A debriefing with learners that includes feedback from learner (post-simulation quiz), SP (post-simulation evaluation), and trainer (evaluation completed while watching the live simulation). 6) If unsatisfactory performance, guidance is given to the individual and the simulation is repeated. 7) A post-encounter survey collecting the learner's opinion of the experience. Once staff members have passed this phase, the individual has earned the title of Patient Champion and receives a printed certificate and lapel pin.

Results: Data has been collected for almost a year and it is evident already that both patient satisfaction questions have trended upward since the time of implementation, even surpassing goals set in place at the health-system level.

Conclusions: Phase 2 of the training program is to train Hospitality Coordinators, Patient Transporters and Security Officers in the same manner. One of the highlights for the staff in this training is the ability to view the video during the debriefing, and the individual often notices the minor areas for improvement before being told. The investment the hospital has made in the staff is a model that should be more widely distributed amongst all departments.

THE EFFECT OF PRECEPTED VIDEO REVIEW AS REMEDIATION FOR POOR PERFORMER IN CLINICAL PERFORMANCE EXAMINATION

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Introduction: Precepted video review (PVR) has been considered as one of the methods for the remediation of poor performers of clinical performance examinations (CPX). However quantitative aspects of the effect of PVR for CPX poor performers are seldom studied.

Methods: Sixty-one final-year students of medical school participated in 2 CPXs held in May and August 2009. The purpose of the CPXs was to identify poor performers of CPX to give customized feedback to them and to let the students recognize their weakness and strength to pass the national medical license examination. Poor performers of the 1st 5-station CPX (10 minutes patient encounter and 5 minutes patient note for each station) were defined as 1) Individual average score of CPX was less than the average score minus 1 standard deviation of all performers 2) The scores of two or more stations were less than the average scores minus 1 standard deviation of all performers of the individual stations. Poor performers of the 1st CPX were notified to voluntarily receive brief PVR (1:1 discussion with one faculty of medical school during reviewing their own videorecordings of two or more stations for 1.5 to 2 hours). Two months after the 1st CPX, all students took a 2nd 10-station CPX. All stations used in both CPXs were unique. The format of the two CPXs was identical except for the number and cases of the stations. The differences of history taking (Hx), physical examination (PE) (evaluated with checklists) and patient-physician interaction (PPI) (evaluated with 6-point rating scales) scores between PVR (poor performers of 1st CPX only who received PVR) and non-PVR groups within each CPX were analyzed using unpaired t-test with Bonferroni correction, and the differences of the same scores of each group between the two CPXs were analyzed using paired t-test.

Results: Seventeen students were identified as poor performers after the 1st CPX, and 13 (PVR group) of them received PVR. Although the non-PVR group (44 non-poor performers and 4 poor performers who did not receive PVR) got significantly higher scores in all categories of 1st CPX, the differences in Hx and PPI scores between the two groups disappeared in the 2nd CPX. The non-PVR group still got significantly higher PE scores in the 2nd CPX, however the difference between the two groups was markedly diminished. There were significant improvements in Hx and PPI scores between 2 CPXs in the PVR group; only PPI scores improved in the non-PVR group. (See table)

Discussion: The scores of CPX can be improved significantly by brief PVR. PVR appears to be an effective method to improve clinical skills of poor performers in CPX. The big differences in scores of PPI between 2 CPXs may be due to the differences of standardized patients.

Table 1.

CPX	Group	Scores of CPX		
		History Taking	Physical Examination	Patient-Physician Interaction
1 st CPX	Non-PVR	55.1 ± 4.7*	44.3 ± 12.9*	54.8 ± 4.7*
	PVR	46.9 ± 3.9	29.3 ± 8.1	52.4 ± 3.2
2 nd CPX	Non-PVR	56.7 ± 5.4	42.6 ± 7.8*	63.1 ± 5.1 [†]
	PVR	56.7 ± 5.5 [†]	35.3 ± 9.2	63.2 ± 3.2 [†]

* : P < 0.05 vs. PVR by unpaired t test, [†] : P < 0.05 vs. 1st CPX by paired t test.

A MULTI-DISCIPLINARY SIMULATION USING STANDARDIZED PATIENTS, MANNEQUINS, AND MEDICATION WORKSHOPS TO ADDRESS A CLINICAL SCENARIO

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Introduction: Our school of medicine is a regional campus for third- and fourth-year medical students. A curriculum model of integrated clerkships was designed to optimize students' learning opportunities with community physicians. This curriculum challenges students to move beyond the acquisition of clinical skills and conceptualize patient care as a coordination of diverse medical disciplines. All required third-year clerkships were combined into two integrated modules with several innovative features. Pediatrics, Obstetrics/Gynecology and Family Medicine are taught together in one six-month module; Surgery, Internal Medicine and Psychiatry/Neurology in a second six-month block. Beginning in 2008, we developed a series of multi-disciplinary simulated learning experiences, which include a standardized patient encounter, a simulation using mannequins and a medication workshop. This simulation targets several learning expectations of a clinical case, including content knowledge, clinical and communication skills.

Project Description: A weekly day-long educational program is specially designed to supplement clinical experiences. A multi-disciplinary simulation is done monthly as part of this program and each day's activities revolves around a single disease and clinical scenario. Students participate in a standardized patient scenario focused on the development of communication skills, a mannequin simulation focused on the development of clinical evaluation and decision making, and a medication workshop focused on knowledge development. Faculty from medicine, nursing, and pharmacy along with the participation of pharmacy students give the simulation a multi-disciplinary focus.

Results: In general, students rated the simulated learning experience positively. Special praise for the one-on-one teaching by experienced clinicians and the opportunity for more hands-on experience have been reported by the students.

Conclusions/Discussion: This poster will present a novel approach to curriculum delivery in a community-based clinical campus. Our simulation experience utilizes multiple methods of instruction with multi-disciplinary delivery of a clinical scenario.

THE IMPACT OF STUDENT COMMUNICATION TRAINING ON THEIR COMMUNICATION SKILLS IN CLINICAL PRACTICE: PEER ROLE-PLAYING VERSUS STANDARDIZED PATIENTS

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Introduction: There are several methods used for training communication skills. A widely used and proven to be effective method for communication skills training (CST) is peer role-playing. A main advantage of this method is that it can be implemented with little additional resources. CST with Standardized Patients (SP) is another effective but more complex and more expensive method. Although both methods are widely advocated, so far, the effectiveness of CST with peer role-playing compared to CST with SPs has not been investigated extensively. The aim of our study is to determine if the students' perception of self-efficacy, the patients' perception of the students' communication skills and the clinical supervisors' observation of the students' communication differs according to the received CST method.

Methods: Subjects were 55 first-year students in the nursing program at the Educational Center of Nursing in Berne, Switzerland. A randomized post-test-only control group design was used. A pretest was omitted since before entering the study all students underwent the same six-month introductory program at their school. The intervention group underwent one CST with an SP. The CST consisted of one-to-one training with direct oral feedback by the SP. The control group practiced communication skills with peer role-playing and mutual feedback. The intervention took place before the students started with the clinical clerkship. The post-test took place at the beginning of the clinical training in a hospital. Real patients, supervisors and students themselves evaluated the communication skills between student and patient, with literature validated instruments.¹⁻³

Results: Our results showed no significant difference between the intervention and control groups regarding students' evaluation of self-efficacy and rating by real patients. However, the supervisors rated the communication skills (instrument mentioned above²) of the students in the intervention group as being significantly superior to those of the control group. The t-test resulted in $t = 5.71$, $p < 0.0001$.

Conclusions: In summary, the results of our study show that CST with SPs is superior to CST with peer role-playing when measured by clinical supervisors.

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TEACHING INTERPERSONAL AND COMMUNICATION FEEDBACK SKILLS TO STANDARDIZED PATIENTS: ASSESSMENT OF A COGNITIVE MODEL

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Introduction: Although feedback is acknowledged as important for medical student development^{1–5}, actual interventions to improve effective feedback are scarce in the literature. The purpose of this mixed-methods retrospective study was to examine the effectiveness of a training intervention for standardized patients (SPs) to improve their verbal feedback to medical students. This two-fold study was designed to: 1) determine whether the addition of a training session on feedback principles improved the quality of SP feedback; and 2) determine to what extent the SPs utilized the training in their feedback.

Methods: In the 2006–2007 academic year, the Standardized Patient Program initiated a revised training protocol for standardized patients during the Year I and Year II interviewing workshops. Four assessment instruments for this revised training consisted of (1) a Standardized Patient Training Satisfaction Questionnaire which measured SP knowledge, skills, and confidence in providing verbal feedback; (2) a Faculty Workshop Feedback Form which assessed whether SPs followed the recommended seven-step format when giving feedback; (3) student online workshop evaluations to determine if post-intervention feedback was more useful than pre-intervention feedback; and (4) a Quality of Standardized Patient Feedback (QSF) form⁶ which was utilized by two independent raters to score the feedback given to the medical students from video review of the workshops.

Results: SP Training Satisfaction Questionnaires ($n = 129$) demonstrated high means for 11 questions (4.41–4.83) on a Likert scale (1 = strongly disagree, 5 = strongly agree). Qualitative analysis revealed the additional feedback session was helpful in learning how to provide verbal feedback. Faculty Workshop Feedback Form results ($n = 143$) showed high frequencies of SPs providing verbal feedback according to the 7 workshop principles (93%–100%). Student responses post-workshops ($n = 24$) indicated significant improvement in SP feedback ($p < 0.001$) across four questions. Random direct video observations by two independent faculty ($n = 25$), showed SPs did not utilize all the principles when giving verbal feedback.

Conclusions: The main conclusion reached was that although three of the four assessment instruments indicated SPs provided quality feedback, it cannot be determined conclusively if the improved feedback was the effect of the feedback intervention in the revised training protocol. Direct observations of the independent raters must be considered as the SPs had less than expected scores on the Quality of Standardized Patient Feedback form, indicating a lower quality of feedback. Further research is needed to delineate variables contributing to the knowledge and skills of SPs as they learn to provide quality verbal feedback.

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CAPTURING ADDITIONAL INFORMATION ABOUT STUDENTS THROUGH A STANDARDIZED PATIENT NOTE OF CONCERN

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Introduction: Early identification of unprofessional behavior of medical students allows for timely corrective interventions or counseling. In 2000, our medical school instituted an Early Concern Note (ECN) program. The ECN provides a process for reporting behavioral concerns outside of standard course or clerkship evaluations¹. Building on the success of the ECN, we developed a Standardized Patient (SP) Note of Concern. We describe this innovation and early outcomes.

Project Description: SP checklists typically capture case content items and ratings of interpersonal skills. We were frequently alarmed by SP's informal comments at the end of sessions "You won't believe what this student said/did/was wearing..." Often these issues did not easily fit into one of the checklist categories, or the SPs were uncertain whether the behavior warranted formal documentation. In response to this, we introduced the SP Note of Concern (SP-NoC) in 2008. SPs use the SP-NoC to document anything from the interaction with the student about which they have specific concerns. The SP-NoC has three categories: Verbal, Action, and Appearance/Attitude. The SPs know that a NoC will not impact the student's grade. Completed forms are given to the SP Medical Director and the video recording of the encounter is reviewed. Outcomes may include feedback to the SP, meeting with the student, or notification of the activity's course director about the student issue.

Outcomes: We have received 35 SP-NoC from 26 SPs over the past year. SPs most often comment on the appearance or attitude of the student, or specific irregularities during the physical examination. Many of the concerns raised are subsequently reinforced in student orientations (eg: guidelines for personal appearance and hygiene) but on several occasions have required follow up discussions with course directors.

Conclusions: The introduction of the SP-NoC has empowered SPs to report concerns about their interaction with a student that might otherwise be dismissed. Knowing that the NoC does not impact the student grade allows the SP to avoid "filtering" their observations, and provides additional valuable feedback to the SP staff. The SP-NoC also supports the institutional ideal of supportive feedback to enhance the professional development of our learners.

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USE OF A REMOTE, LIVE STANDARDIZED PATIENT TO ASSESS MASTERY OF CLINICAL SKILLS ON ALCOHOL ABUSE AND DEPENDENCE

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Introduction: With funding from a NIH/NIAAA grant (#1R44AA016724-01A1), we created an online medical student curriculum on alcohol abuse. To assess mastery of clinical concepts, we developed a novel method of conducting remote live standardized patient (SP) interviews using Google® chat, with a trained staff member as the SP. In advance of a summative evaluation in 2010, we conducted a pilot test to assess the utility of the case and gather student feedback.

Methods: We developed a standardized patient case, Cynthia Stewart, who presents with insomnia and is diagnosed with alcohol abuse. Five third-year students interviewed Cynthia during a 45-minute Google® chat experience. Students completed eight online courses, then performed a second SP interview. Clinical skill competency was measured using a 13-item done/not done checklist completed by both the SP and an independent reviewer. Interpersonal skills were evaluated by the SP using a 9-item checklist and a 5-point Likert scale. Student self-assessment, assessment of the SP by the student, and patient notes were also collected.

Results: Clinical skill competency rose modestly from pre-test (64%) to post-test (77%). Interpersonal skills rose modestly from pre-test (2.65) to post-test (3.22). Although sample size (n=5) was too small for determination of statistical significance, the results are encouraging for future studies. Student self-assessment of interpersonal skills were much higher (4.03 pre and 4.11 post) than those assessed by the SP. A majority of students (80%) rated the SP performance as very good or excellent. All students correctly identified alcohol abuse as a possible differential diagnosis on patient notes. We obtained usability feedback about the standardized patient post-experience. Eighty percent (4/5) agreed or strongly agreed that the interviewing process was a valuable learning experience, that the SP interviews were consistent pre/post experience, and that the patient case was typical of a real patient. All students (n=5) agreed or strongly agreed that the SP interview via Google® chat was an interesting way to practice clinical skills. Students provided open-ended feedback on ways to increase the difficulty of the SP case.

Conclusions: Students were able to improve clinical skills through a chat-based SP interview. Improvements in advance of a more thorough evaluation with a larger n include refinements to the patient case and assessments and creation of a second SP case to increase variability pre/post experience.

WINDIX TRAINING MANUAL FOR STANDARDIZED PATIENT TRAINERS: HOW TO GIVE EFFECTIVE FEEDBACK

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Introduction: Standardized patients (SPs) have been used for teaching and/or evaluating medical students' interviewing skills, counseling skills, and physical examination skills and the competencies of residents and practicing physicians.¹⁻³ Receiving feedback from SPs may be the only opportunity in their professional life to hear from the patient how s/he feels about the doctor-patient encounter.⁴ Students rate SP feedback as being very valuable.

Although standardized patients are skilled at simulating real patients in terms of history and physical findings,⁵ they are less skilled in providing effective feedback, especially verbal.

The WinDix Training Manual was developed to train SPs to give more consistent verbal feedback.⁶ The manual includes a Quality of Standardized Patient Feedback (QSF) rating form with seven categories derived from feedback theory. The purpose of this study was to determine the extent to which SPs utilize the six major categories in the QSF form. The QSF has 7 major categories: asked student to reflect; gave positive feedback; gave constructive feedback; showed empathy for distressed student; ended with positive feedback; verified student learning; and asked whether student had questions. The empathy category was not included because if the student was not distressed, the SP received the full score for this category.

Methods: The manual was used to train 130 SPs. Two faculty members rated 25 randomly selected videos of SP/student encounters to determine inter-rater and internal reliability of the QSF. An SP trainer faculty member rated an additional 30 randomly selected videos to determine the number of QSF categories SPs incorporated into their feedback during student encounters post training. SPs were asked whether the training manual was helpful on a scale of 1-5, with 5 being the highest; and asked an open-ended question as to which activity was the most useful and effective.

Results: The inter-rater reliability of the QSF was 0.92 and the internal reliability (Cohen's alpha) was 0.95. Fifty-seven percent (57%) of SPs incorporated all categories when providing feedback, and 67% included at least five of the six major categories. SPs found the training manual to be helpful (mean 4.41, SD 1.02). 26 SPs commented that the training session using the manual was the most effective. SPs who did not follow the QSF guidelines were more likely to inappropriately use training materials for feedback.

Conclusions: The QSF form allowed SP feedback to be quantified and compared. Over two-thirds of SPs incorporated at least five major categories in their feedback, thus making the feedback specific and consistent.

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