HIGH-FIDELITY PATIENT SIMULATION RELIABILITY FOR EARLY CLINICAL PERFORMANCE SUCCESS

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BACKGROUND

In the Masters of Science in Anesthesia (MSA) program at MCW, high-fidelity patient simulations are a core component educating our students. We use it to prepare and evaluate student readiness for the clinical environment, but there is a relatively small database that proves its reliability in predicting early clinical performance. Given its common practice in medical training programs, more literature needs to be added. This project is still in its early phases—a larger sample size is needed to prove statistical significance.

METHODS

Average results from each MSA student’s clinical performance evaluations during their first four months of full clinical participation was compared to each student’s final grade percentages from their corresponding final performance examination during high-fidelity patient simulation. The exam is given immediately prior to their participation in clinic. Results were derived from Spearman’s rank-order correlation to determine statistical significance with support from an appropriate p-value.

RESULTS

After ranking each participant’s average clinical evaluation score and final simulation rubric score, a Spearman’s test was calculated to be 0.698, and a p-value <0.001 suggesting positive correlation between the two scores.

CONCLUSIONS

• This data suggests there is positive predictive correlation between HFPS grading rubrics and early clinical performance evaluation for MSA students

• These results suggest justification for utilizing these tools in evaluating anesthesia learners

CURIOSITY

The broad nature of these tools and the relatively small sample size made it difficult to predict results—it was a true toss up.

Looking forward, I’m now curious about internal reliability given the specificity potential this data has. In other words, breaking it down even further to data grouping (preoperative interviews, intraoperative management, etc.) and coming up with high-value revisions to both simulation rubric and clinical evaluations to maximize reliability. A parallel research question may be, “What makes a quality sim rubric/clinical evaluation, and how can you maximize their predictive potential?”

CONNECTIONS

A larger body of data is needed to verify the justification in utilizing these increasingly popular evaluation tools, and whether or not they correlate with clinical performance for early anesthesia learners. By studying it, educators can revise both processes to be more predictive of student success—leading to more meaningful educational interventions.