Title:
Methods for the Development and Validation of New Assessment Instruments

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Session Title:
Selection and Development of Tools
Slot:
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Scheduled Time:
3:35 PM

Keywords:
Assessment , Conceptual framework and Instrument development

References:
Cook, D. A., & Triola, M. M. (2009). Virtual patients: A critical literature review and proposed next steps. Medical Education, 43(4), 303-311. doi:10.1111/j.1365-2923.2008.03286.x Forsberg, E., Georg, C., Ziegert, K., & Fors, U. (2011). Virtual patients for assessment of clinical reasoning in nursing: A pilot study. Nurse Education Today, 31(8), 757-762. doi:10.1016/j.nedt.2010.11.015 Shellenbarger, T., & Robb, M. (2015). Technology-based strategies for promoting clinical reasoning skills in nursing education. Nurse Educator, 40(2), 79-82.

Abstract Summary:
This session will describe the process undertaken to develop and validate a conceptual framework and associated assessment instruments, as applied in the development of measurements of clinical reasoning in virtual patient simulations for three distinct learner populations: BSN, RN-BSN, and MSN students.
Learning Activity:

LEARNING OBJECTIVES	EXPANDED CONTENT OUTLINE
Learners will understand the methods used to develop a validated conceptual framework.	Content presented will outline the research-based methods used to develop a conceptual framework, and provide a concrete example of the application of the methods to the development of a framework for clinical reasoning.
Learners will be able to apply develop valid assessment instruments.	Best practices in instrument development will be delivered, and reinforced with examples.

Abstract Text:

INTRODUCTION

Clinical reasoning is the non-linear analytical process of making decisions for the prevention, diagnosis, or treatment of problems facing a particular patient (Forsberg, Georg, Ziegert, & Fors, 2011; Shellenbarger & Robb, 2015). Nursing faculty often use virtual patients to assess their students' clinical reasoning abilities. Cook and Triola (2009) identified clinical reasoning as the only valid learning objective for a virtual patient simulation, yet they also found that most assessment instruments within virtual patient

programs employed an algorithmic approach, scoring the completeness of information elicited, instead of the cognitive process of clinical reasoning. At the time of this study, there were still no valid and reliable instruments designed to evaluate clinical reasoning in a virtual patient program.

METHODS

To measure the higher order thinking skill of clinical reasoning within a virtual patient program, the researchers first developed a conceptual framework of clinical reasoning within a virtual environment, then validated it with a group of subject matter experts in the field clinical reasoning. After the conceptual framework was validated, discrete components of the clinical reasoning framework were identified as areas for student assessment. Instruments were developed to measure these discrete components of clinical reasoning for BSN, RN-BSN, and MSN students in parallel, to control for differences in the learning populations.

RESULTS

A conceptual framework for clinical reasoning within a virtual patient simulation was constructed and content validated with a group of experts in clinical reasoning. Assessment instruments were developed to measure three components of clinical reasoning within the framework: data collection, therapeutic communication, and information processing. Each instrument was examined for evidence of internal consistency reliability and validity for BSN, RN-BSN, and MSN populations. All items showed high quality, and the instruments showed evidence of reliability and validity for each population.

CONCLUSION

Attendees of this presentation will understand the development and validation process involved in identifying a new conceptual framework, as well as the methods used to develop valid and reliable assessment instruments to measure their conceptual framework.