Nurse Practitioner Student Assessment Performance Using Live Patients and Virtual Patient Encounters: Is there a Difference?

Dr. Angela Wooton, Dr. Roberta Hoebeke, & Dr. Mellisa Hall

Objective

- At the conclusion of this presentation learners will have an increased awareness of the usefulness of virtual patient encounters in their specialty focus.

Acknowledgements

- The authors wish to acknowledge there was no conflict of interest or outside funding sources for this project.
Background/Significance of the Problem

- Number of clinical sites are shrinking while number of NP students continues to grow
- There has been an 81% increase in enrollment in NP programs over last 5 years
- Review of literature indicated sparse evidence that traditional clinical experiences differed from virtual clinical encounters

Background/Significance cont.

- Based on studies with undergraduate nursing students, current evidence supports that up to 50% of clinical hours maybe with simulated patients to achieve learning outcomes (Hayden et al. 2014)

Systematic Review

- Cook et al. (2011) in an extensive meta-analysis and systematic review of over 609 studies consistently found large effects for knowledge, skill and behavior acquisition when simulation training was used in health professions education.
Research Question/Hypothesis

Given the shortage and unpredictability of clinical sites, faculty at a large Midwestern distance education NP program with students from 30 states posed the following research question:

"Is there a difference in student performance on history and physical evaluations using virtual patients (VP) compared to live patient encounters?"

Research Method

A descriptive correlational research design was used to investigate the association between students’ ability to obtain relevant history and physical exam data on virtual and live patients.

A convenience sample of (N=63) family nurse practitioner students in their final year of the NP curriculum was selected.

NP students completed Shadow Health® virtual patient (VP) cases and a SOAP note on live clinic patients.

Scores were obtained for subjective and objective data on both types of assignments.

Descriptive statistics and paired t-tests were used to analyze and compare scores.
Findings
- T-tests were conducted to test for differences between means on subjective and objective scores ($p < .05$).
- No significant difference was found between objective data scores for VP ($M=91.3, SD=15.6$) and live patient encounters ($M=90.2, SD=18.5$), $t(62) = .395, p = .694$.
- However, there was a significant difference between subjective data scores for VP ($M=73.3, SD = 14.5$) compared to live patient encounters ($M=87.3, SD=19.7$), $t(62) = -4.816, p = .000$.

Discussion of Results
- No difference in NP student ability to correctly select appropriate physical exam components on either VP or live patient encounters.
- Students did differ in their performance with eliciting pertinent history elements.
- Students scored lower on average when using VP when collecting subjective data.

Conclusions
- Faculty conclude that VP are a useful learning tool to enhance student learning.
- In this study there was no difference between both methods when assessing student ability to collect pertinent examination data.
- However, there was a difference when assessing student ability to collect personal historic data.
- Students scored higher on live patient interviews.
Implications for Practice

- There is a gap in empirical literature regarding the comparison of student performance in clinical environments versus virtual environments
- NP faculty value the role of virtual clinical experiences to augment student learning

Future Trends

- Virtual clinical learning
- Computer technology advancing
- Compensation of preceptors

Contact Information:

- Dr. Angela Wooton
- (812) 465-7074
- akwooton@usi.edu