

Blended PIVC insertion training programs that incorporate deliberate simulated practice have the potential to improve clinical practice and patient care” Keleekai et al (2016).

Abstract:

INTRODUCTION: Peripheral intravenous catheter (PIVC) insertion is one of the most common invasive procedures performed in a hospital, but most nurses receive little formal training in this area. Blended PIVC insertion training programs that incorporate deliberate simulated practice have the potential to improve clinical practice and patient care.

METHODS: The study was a randomized, wait-list control group with crossover using nurses on three medical/surgical units. Baseline PIVC knowledge, confidence, and skills assessments were completed for both groups. The intervention group then received a 2-hour PIVC online course, followed by an 8-hour live training course using a synergistic mix of three simulation tools. Both groups were then reassessed. After crossover, the wait-list group received the same intervention and both groups were reassessed.

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RESULTS: At baseline, both groups were similar for knowledge, confidence, and skills. Compared with the wait-list group, the intervention group had significantly higher scores for knowledge, confidence, and skills upon completing the training program. After crossover, the wait-list group had similarly higher scores for knowledge, confidence, and skills than the intervention group. Between the immediate preintervention and postintervention periods, the intervention group improved scores for knowledge by 31%, skills by 24%, and decreased confidence by 0.5%, whereas the wait-list group improved scores for knowledge by 28%, confidence by 16%, and skills by 15%.

CONCLUSIONS: Results demonstrate significant improvements in nurses' knowledge, confidence, and skills with the use of a simulation-based blended learning program for PIVC insertion. Transferability of these findings from a simulated environment into clinical



practice should be further explored.

Reference:

Keleekai, N.L., Schuster, C.A., Murray, C.L., King, M.A., Stahl, B.R., Labrozzi, L.J., Gallucci, S., LeClair, M.W. and Glover, K.R. (2016) Improving Nurses' Peripheral Intravenous Catheter Insertion Knowledge, Confidence, and Skills Using a Simulation-Based Blended Learning Program: A Randomized Trial. *Simulation in Healthcare*. August 8th. .

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