

# 15<sup>th</sup> Euro Nursing & Medicare Summit

October 17-19, 2016 Rome, Italy

## The use of simulation to improve knowledge retention in junior-level Bachelor of Science in nursing students studying cerebral vascular accident

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Retention of classroom learning is foundational to clinical reasoning and adequate practice for student nurses particularly when confronted with critical clinical situations such as acute stroke. Simulation has been successful in developing clinical reasoning, however little is known whether it helps retention of key classroom material or not. This cross-sectional interventional project examined the use of simulation to improve knowledge retention in junior-level BSN students of classroom material about stroke. The intervention group was exposed to a simulation scenario along with usual classroom lecture and reading. Retention of classroom material was assessed in intervention and control groups by pretest and repeated post-test at one and six weeks. 141 participants were enrolled from a gerontology course, who were taught over fall and spring semesters. Mean delayed post-test scores of the intervention group ( $n=76$ ,  $m=15.64$  and  $SD\ 2.62$ ) were significantly higher than the control group ( $n=65$ ,  $m=14.35$  and  $SD\ 2.35$ ), ( $t(139)=-0.3054$ ,  $p=0.003$ ), with a moderate effect size Cohen's  $d=0.52$ , indicating the simulation experience increased retention of classroom didactic material. Sample demographics revealed the older the student, the higher the delayed post-test mean score ( $\rho=0.220$ ,  $p=0.009$ ) and traditional students had lower mean scores overall than transition to nursing (TTN) students ( $r=-0.193$ ,  $p=0.022$ ). There was a significant difference ( $p<0.05$ ) between delayed mean post-test scores between traditional ( $n=110$ ) and TTN students ( $n=31$ ), however, due to inequality in numbers this must be interpreted with caution. Use of simulation increased retention of classroom learning in BSN students.

### Biography

Debra Parker received her Doctor of Nursing from Indiana Wesleyan University in the USA. She has worked as a Nurse Educator for 6 years and working as a Critical Care Registered Nurse for 34 years in Management.

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