Evaluation of a critical care simulation series for undergraduate nursing students

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**Aim:** Simulation is increasingly being used to prepare and supplement clinical practice in critical care areas for undergraduate Bachelor of Nursing (BN) students, with some success. However, the effects of multiple, medium-high fidelity simulations for this purpose have not been previously assessed. The purpose of this study was to assess self-reported confidence and competence using a series of scenario-based simulations.

**Background & Method:** A pre-test/post-test design was used to evaluate a series of simulations conducted over a 9 week semester. There were twenty seven scenarios in total, with each individual scenario lasting approximately five to seven minutes and incorporating programmed mannequins, moulage and actors. The scenarios were embedded in a team-based process involving preparation and video-recordings used to debrief. Third year BN Students (n = 219) reported their confidence and competence before and after the simulation series and made comments on their perception of the experience.

**Results:** Students were primarily female (90%) and from the 19-29 year age bracket (70.3%). Confidence and competence scores improved significantly over time, with an average increase in confidence scores of 1.45 points (effectively 63%) and competence scores of 1.2 points (effectively 48%). Confidence and competence scores were highly correlated both pre-simulation ($r = .68$, $p < .001$) and post-simulation ($r = .78$, $p < .001$). There was no difference in confidence or competence scores post-simulation according to age, but there were differences by gender so that males reported significantly more confidence.
and competence than females. Of the students who provided further comments (n = 97, 44%), the majority indicated the most common response was that they enjoyed or appreciated the experience (65%), followed by describing how their experience helped them link theory and practice (24%) or improved their confidence (24%).

**Conclusion:** A series of medium-fidelity simulations with multiple scenarios is effective in improving BN students’ confidence and competence related to critical care practice and is an enjoyable experience for students.