

## Assessing the Impact of High Fidelity Human Patient Simulation on Teamwork among Nursing, Medicine and Pharmacy Undergraduate Students

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**Abstract :** High fidelity human patient simulation has been used for many years by health sciences education programs to foster critical thinking, engage learners, improve confidence, improve communication, and enhance psychomotor skills. Unfortunately, there is a paucity of research on the use of high fidelity human patient simulation to foster teamwork among nursing, medicine and pharmacy undergraduate students. This study compared the impact of high fidelity and low fidelity simulation education on teamwork among nursing, medicine and pharmacy students. For the purpose of this study, two innovative teaching scenarios were developed based on the care of an adult patient experiencing acute anaphylaxis: one high fidelity using a human patient simulator and one low fidelity using case based discussions. A within subjects, pretest-posttest, repeated measures design was used with two-treatment levels and random assignment of individual subjects to teams of two or more professions. A convenience sample of twenty-four (n=24) undergraduate students participated, including: nursing (n=11), medicine (n=9), and pharmacy (n=4). The Interprofessional Teamwork Questionnaire was used to assess for changes in students' perception of their functionality within the team, importance of interprofessional collaboration, comprehension of roles, and confidence in communication and collaboration. Student satisfaction was also assessed. Students reported significant improvements in their understanding of the importance of interprofessional teamwork and of the roles of nursing and medicine on the team after participation in both the high fidelity and the low fidelity simulation. However, only participants in the high fidelity simulation reported a significant improvement in their ability to function effectively as a member of the team. All students reported that both simulations were a meaningful learning experience and all students would recommend both experiences to other students. These findings suggest there is merit in both high fidelity and low fidelity simulation as a teaching and learning approach to foster teamwork among undergraduate nursing, medicine and pharmacy students. However, participation in high fidelity simulation may provide a more realistic opportunity to practice and function as an effective member of the interprofessional health care team.

**Keywords :** acute anaphylaxis, high fidelity human patient simulation, low fidelity simulation, interprofessional education

**Conference Title :** ICNIT 2018 : International Conference on Nursing Informatics and Technology

**Conference Location :** Paris, France

**Conference Dates :** August 27-28, 2018