

Title: Simulation program for family practice residents

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Context and Setting: Simulation is increasingly used in medical education for physician and allied health personnel training at many centers around the world, and the use of simulation techniques in training and assessing learners is increasingly viewed as a standard methodology of medical education. In 2005 the Faculty of Medicine built in its campus a Simulation Center (CECAM) that has provided hands-on training to several thousand students. The medical specialty courses take place in different health care academic centers, and their exposure to hands-on training is heterogeneous and frequently unsupervised.

Our postgraduate student population has most of their initial practice with real patients at our network of hospitals, with the inevitable production of medical errors. For this project Family Practice residents (FPR) were chosen because it is one of the most supervised residency programs. The design and development of a medical simulation program will introduce new standards and innovative approaches to their training, contributing to a local improvement in patient-safety education and the prevention of medical errors, with direct benefit to the patient population.

Why the idea or change was necessary: The aim of creating a simulation educational program for FPR is to introduce this training modality in our residency programs, to provide competency-based education and clinical skills training in a controlled, risk-free and standardized setting and to contribute to the prevention of medical errors by using simulation as a teaching and learning tool.

What was done: A program schedule was formulated for the first year FPR of Mexico City which included residents from 6 different hospitals. The program included three specific courses (breast examination, rectal examination and Pap smear). Each of these courses consisted of a 2 hour session with a 15 minute theoretical explanation using PowerPoint presentations. The rest of the time the residents practiced with the different simulators, always supervised by an instructor of the simulation center. The residents were initially evaluated by the instructors with pre and post practice previously validated check lists, and a theoretical exam was performed pre and post course, which consisted of five items. Data analysis was performed with PASW Statistics 18 using T-student for the comparison of pre and post results for each of the courses.

For the breast examination course 130 residents were evaluated and a statistical difference was shown between the pre and post practice evaluations. For the rectal examination 109 residents were evaluated showing $p < 0.000$ for their pre and post practice checklists and theoretical exams. For the Pap smear course 77 residents were evaluated showing an improvement in the pre and post practice skills.

Evaluation of the results or impact: This program demonstrated a positive impact in the acquisition of different skills in the residents by using simulation as a learning tool. It showed an increase in the performance of residents in specific skills: breast examination, rectal examination and Pap smear. The acquisition of these competencies will help the residents to improve their performance and acquire patient-related competencies, to decrease medical errors, increase patient safety and improve the practice of preventive medicine in our academic health centers.