

Title: Preparatory Simulation Training Program for Ain-Shams Anesthesia Residents

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What problem was addressed: The anesthesia residency training program in Ain-Shams Medical School is a traditional apprenticeship model. Residents go to the operating rooms from the first day to observe, assist, imitate without standardized structured preparation. They are subjected to pressures of time and a dynamic OR environment with little preparation. Simulation is a valuable educational tool that would help to bridge the gap between knowledge and practice¹ as they transition from internship into residency. A structured simulation-based training program would provide effective preparation for new anesthesia residents that could facilitate the transition to the new profession.

What was done: After approval of the ethical committee of Ain-Shams Medical School; “Needs Assessment” was conducted; two focus groups were surveyed, one with senior residents and the other with faculty. Both focus groups revealed a need for simulation skills for junior residents but also suggested the challenges that would be faced during program implementation. A simulation-based training program was then designed with clear learning outcomes. Selected skills were airway management, basic regional anesthesia and in-hospital resuscitation and code blue system (IHRCB). Training resources and materials were prepared. Pretest and post-test were formulated. Other evaluation tools included post workshop feedback form for each training session and global program feedback form. Performance assessment using Checklists were to be implemented after completion of the program. This was a workplace assessment tool for three main skills, endotracheal tube insertion, laryngeal mask insertion and spinal anesthesia. Thirty two junior residents were enrolled in 4-day simulation program which was implemented in the first week of residency. Pre and post confidence survey were compared

What lessons were learned: Structured simulation training program and workplace-based formative assessment was implemented for junior residents for first time.

Seventy eight percent of residents agreed that it was a great educational experience, most of residents (90.6%) agreed or strongly agreed that knowledge and skills could be applied, (81.3%) declared that they needed more opportunities using simulation and (84.4%) agreed that they would recommend this course for the upcoming residents.

Preparatory course improved residents’ knowledge. Post-test scores were highly significant when compared with the pre-test scores especially for the airway management session (pre mean score 5.70 (SD=1.18) postmean score; 7.83 (SD=1.20) $p<0.001$) and IHRCB session (premean score 5.85 (SD=1.54) postmean score 8.62 (SD=1.06) $p<0.001$). Most of residents assessed in the workplace had a good performance as declared by their assessors. Sixty four percent agreed or strongly agreed that course increased their overall confidence.

There was limited time for development of training of trainers program. Conducting performance tests on all residents’ post-workshops due to large number of residents was a challenge and is a limitation of this work.

Reference:

1. Weller JM. Simulation in undergraduate medical education: bridging the gap between theory and practice. *Medical Education*. 2004; 38: 32–38

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