A SURVEY OF PERCEIVED BARRIERS TO SIMULATION BASED EDUCATION

Georges L Savoldelli MD, Viren N Naik MD MEd, Pamela J Morgan MD

Department of Anesthesia, and the Wilson Center for Research in Education,
University of Toronto, 30 Bond St, Toronto, ON, M5B 1W8

INTRODUCTION: Although simulation-based education has been suggested to be relevant over a wide range of levels of training and experience, barriers to its use in continuing education for anesthesiologists have not been well studied. We hypothesized that level of training may influence attitudes towards simulation-based education. This study investigated this issue at our university, which possesses two sites equipped with high-fidelity patient simulators.

METHODS: After IRB approval, a 40 question survey investigating experiences, perceptions, motivations and perceived barriers to simulation-based education, was distributed to 154 anesthesiologists attending a departmental conference. Data were analyzed using descriptive statistics and the responses to various questions were cross-tabulated. Associations between responses to different questions were assessed using either the Pearson Chi-Square statistic or a one-way ANOVA.

RESULTS: Forty staff anesthesiologists, 22 fellows, and 27 residents, returned the questionnaire for a rate of return of 58%. Residents had experienced simulation-based education (96% more often than staff (58%) and fellows (36%) ($p < 0.001$ respectively). Trainees (residents & fellows) found simulation-based education more relevant for their training (88% vs 65% ($p < 0.05$)). Perceived barriers are summarized in the table according to level of training.

Perceived barrier	Staff (N=40)	Trainees (N=49)	Significance
Do not perceive any barrier (%)	10.0	26.7	$p < 0.05$
Number of perceived barriers (Mean $\pm$ SD)	1.8 $\pm$ 1.1	1.3 $\pm$ 1.2	NS
“Lack of free time” (%)	55.0	33.0	$p < 0.05$
“Financial consequences of missing work” (%)	17.5	0.0	$p < 0.01$
“Lack of training opportunities” (%)	22.5	38.8	NS
“Stressful/intimidating environment” (%)	25.0	22.4	NS
“Fear of educator’s/peer’s judgments” (%)	25.0	18.4	NS
“Fear of inaccurate reflection of clinical ability” (%)	25.0	12.2	NS
“Distance to simulation center” (%)	7.5	8.1	NS
“Other barriers” (Open ended question)	4.0	2.0	NS

DISCUSSION: Anesthesiologists perceive barriers to simulation-based education. Compared with trainees, staff anesthesiologists have less experience with simulators, find it less relevant for their current training, perceive more barriers, and identify ‘time’ and ‘financial issues’ as significant barriers. These results may be used to implement targeted actions such as course design, incentives, and information strategies, which could improve access and future utilization of simulation.