

LETTER

Building an *in situ* simulation program takes coordination and collaboration of all members of the Labour & Delivery Suite

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The value of simulation is well-established, but it can be challenging to fully engage all obstetric team members to participate. The aim of this intervention was twofold. First, to create an *in situ* simulation curriculum for obstetric case scenarios after obtaining initial data from team members regarding the value and importance of simulation [1,2]. The curriculum that rotated on a quarterly basis included case scenarios in obstetric haemorrhage, hypertensive emergency, shoulder dystocia and cord prolapse. It was conducted during day and night shifts on two busy labour and delivery units [3,4]. The second aim was to establish a robust, multidisciplinary team of simulation instructors, vetted by the Center for Learning and Innovation. This team included doctors, advanced care providers and nurses.

We conducted a cross-sectional survey of 353 full-time and voluntary obstetrical attending physicians employed at our two tertiary care centres between September 20, 2019, and October 5, 2019. Subjects were identified by employee records and the providers who participated had clinical privileges to perform obstetrical care at these sites during the study period. Health care providers included attending Obstetric physicians, Obstetrics & Gynaecology residents and advanced care providers. Initially, this was a quality improvement study evaluating the effect of *in situ* simulation with a formalized curriculum. After implementation of the simulation program, the survey was re-sent to 687 attending physicians, advanced care providers and nurses from September 1, 2020, to October 15, 2020 to evaluate the changes in perception when a formalized curriculum and collaborative team was established.

The mean importance values assigned to each survey question during each study period can be seen in Table 1. The importance of all aspects of simulation was found to increase for all respondents between the initial and follow-up surveys, although not all increases were statistically significant. When respondents who had participated in simulation drills were analysed, the effect of all aspects of simulation were found to increase between the initial and follow-up surveys. Only one aspect was statistically significant (Table 2). This was specifically related to the value and importance of simulation drills for learning (0.39-point increase, $P < 0.05$). Of note, the value of simulation drills for the maintenance of clinical/surgical privileges, the value of incorporating all staff including PAs, NPs and nurses and the value of the simulation instructor pointing out mistakes all approached statistical significance ($0.05 < P < 0.10$).

As the use of *in situ* medical simulation increases, large health care systems will need to engage all relevant health care providers and create programs that

Table 1: Importance ratings of all survey respondents for initial and follow-up surveys

Survey question	Mean importance initial (n = 40)	Mean importance follow-up (n = 141)	Increase	P-value
The value of simulation drills for safety improvement	4.41	4.80	0.39	$P > 0.2$
The value of simulation drills for learning	4.37	4.82	0.45	$P > 0.2$
The value of simulation drills for maintenance of privileges	3.34	4.01	0.67	$P < 0.001$
The value of incorporating all staff including PAs, NPs and nurses	4.59	4.86	0.27	$P > 0.2$
The value of running frequent <i>in situ</i> (in the hospital) drills	4.22	4.62	0.40	$P < 0.001$
The value of a group debrief after the simulation	4.34	4.80	0.46	$P > 0.2$
The value of the group to talk at the debrief	4.29	4.72	0.42	$P < 0.05$
The value of the simulation instructor to talk during the debrief	4.12	4.59	0.47	$P < 0.001$
The simulation instructor should point out mistakes	4.17	4.55	0.38	$P < 0.001$
During the debrief, I should be given the opportunity to ask questions	4.59	4.84	0.25	$0.05 < P < 0.10$
Simulation should reflect real-life cases	4.71	4.85	0.14	$P < 0.02$

Table 2: Importance ratings of survey respondents who have participated in simulation for initial and follow-up surveys

Survey question	Mean importance initial (n = 28)	Mean importance follow-up (n = 77)	Increase	P-value
The value of simulation drills for safety improvement	4.46	4.77	0.30	$0.10 < P < 0.20$
The value of simulation drills for learning	4.39	4.78	0.39	$P < 0.05$
The value of simulation drills for maintenance of privileges	3.39	4.08	0.69	$0.05 < P < 0.10$
The value of incorporating all staff including PAs, NPs and nurses	4.57	4.90	0.32	$0.05 < P < 0.10$
The value of running frequent <i>in situ</i> (in the hospital) drills	4.36	4.65	0.29	$P > 0.2$
The value of a group debrief after the simulation	4.50	4.81	0.31	$P > 0.2$
The value of the group to talk at the debrief	4.43	4.70	0.27	$P > 0.2$
The value of the simulation instructor to talk during the debrief	4.21	4.55	0.33	$P > 0.2$
The simulation instructor should point out mistakes	4.07	4.55	0.47	$0.05 < P < 0.10$
During the debrief, I should be given the opportunity to ask questions	4.61	4.87	0.26	$0.10 < P < 0.20$
Simulation should reflect real-life cases	4.71	4.82	0.10	$P > 0.2$

meet the needs of the busy clinician and the impact of simulation on patient safety and clinical outcomes [1,2]. Understanding the culture and perspectives of the Obstetric faculty and staff is key to a successful program. Including *in situ* simulation as a requirement for Obstetric privileges and continuing medical education would enhance the program and have a positive impact on quality of care, patient safety and patient outcomes [3,4].

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