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Objectives: While teamwork in the health care setting has widely been recognized as an important factor in providing high quality patient care, instituting its practice in everyday duties is challenging. Acute care environments, like the emergency department, are especially vulnerable to team breakdown secondary to communication failures. Simulation can be utilized to promote teamwork and good communication among health care professions to improve safety and quality of patient care. Traditional simulation-education has been delivered remote from the clinical area. An onsite simulation education bundle incorporating TeamSTEPPS concepts, reduces lost clinical time to off-site training, offers an innovative and engaging modality to engage multi-disciplinary teams and improve communication.

Planning/ Research Methods: An approach combining TeamSTEPPS training, in-situ based simulation and facilitated debriefing was instituted to improve teamwork and communication in the Emergency Department of Kings County Hospital (KCH), an urban, public tertiary care teaching institution. All clinical area staff, including residents, attendings, and nursing staff participated. A before and after survey and observations were conducted, using the validated Safety Attitudes Questionnaire (SAQ) and the Team Emergency Assessment Measure (TEAM). The SAQ covered work place satisfaction, morale, and self-impression on current team dynamics. Participants were surveyed regarding their perceptions of critical care teamwork and communication pre- and post-intervention.

Implementation Methods: Trained observers conducted evaluations of actual clinical resuscitations in the Critical Care Trauma (CCT) area of the KCH – ED prior to initiation intervention. The intervention consisted of weekly in-situ simulation scenarios followed by facilitated debriefing conducted by Simulation-trained faculty and simulation specialists. Sessions were scheduled to minimize impact on clinical responsibilities and to maximize volume and diversity of staffing. During simulation debriefings, clinical scenarios were reviewed, however, systems issues, teamwork and TeamSTEPPS concepts were emphasized and not clinical management. Post intervention surveys and resuscitation observations were collected and analyzed.

Results:

Question	Intervention	Disagree strongly	Disagree Slightly	Neutral	Agree Slightly	Agree Strongly	p-Value
Nurse input is well received	Pre-	9.7%	19.4%	25.8%	24.7%	20.4%	0.006
	Post-	1.5%	10.6%	16.7%	50.0%	21.2%	
Physicians and nurses here work together as a well-coordinated team	Pre-	14.0%	18.3%	9.7%	37.6%	20.4%	0.127
	Post-	4.5%	10.6%	10.6%	42.4%	31.8%	
Medical errors are handled appropriately in this clinical area	Pre-	2.2%	15.1%	31.2%	24.7%	21.5%	0.054
	Post-	1.5%	4.5%	19.7%	39.4%	22.7%	
Communication breakdowns that lead to delays in delivery of care are common	Pre-	6.5%	18.3%	17.2%	40.9%	17.2%	0.620
	Post-	6.1%	27.3%	15.2%	33.3%	16.7%	
I would feel safe being treated as a patient here	Pre-	8.6%	18.3%	22.6%	30.1%	20.4%	0.054
	Post-	4.5%	10.6%	10.6%	47.0%	27.3%	

Conclusion:

On site-based simulation targeted at improving teamwork and communication in the emergency setting is effective. Although this study and its design have limitations, the unit-based simulation bundle offers an innovative and engaging educational modality to improve teamwork and communication. TEAM observations, while still ongoing, have also shown significant improvements in leadership and collaborative care.

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