21 Gender Bias in Nursing Assessment of Emergency Medicine Residents

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Background: Implicit gender bias in medical training has been suspected both on the part of physicians and of nurses interacting with trainees. Previous investigations have demonstrated gender bias in nursing assessments of OB/GYN residents and faculty evaluations of Emergency Medicine residents.

Objectives: We aimed to determine if gender bias exists in nursing assessments of Emergency Medicine residents.

Methods: We used a single-center, retrospective design to examine nursing assessments of PGY-1 to PGY-4 Emergency Medicine residents in an urban Level I Trauma center's academic training program. Surveys were sent to nursing staff, who submitted anonymous evaluations of residents using a 5-question assessment tool. Responses were graded using a five point scale for questions 1-4. Question 5 was a binary yes/no question. The survey asked about a resident's bedside manner, communication skills with patients, communication skills with nurses and other non-physician staff, medical knowledge and clinical skills, and whether the nurse evaluator would want this resident to take care of them or their family member as an ED patient. Analysis was conducted using linear mixed models.

Results: A total of 325 assessments were collected over a one year period. There were 140 evaluations for female residents (43%) and 185 for male residents (57%). 61 unique residents were included in the analysis. For Question 1, which assessed a resident's bedside manner, there existed a statistically significant difference in scores by gender ($p = 0.035$) when comparing male (mean score 4.1) vs female (mean score 3.62) residents. The four other questions demonstrated a trend toward female residents scoring lower than male residents, but none reached statistical significance.

Conclusions: While our study looked at a small sample of resident assessments over a one year period, we found a statistically significant gender difference evident in 1/5 questions. Faculty and residents should be aware of possible gender bias when interpreting results of nursing assessments.

22 Interprofessional Simulation Improves Comfort With Communication Among Emergency Department Personnel

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Background: Patient care in the ED involves communication between personnel from multiple health care professions. Training in multidisciplinary teams has engaged both Interprofessional Education (IPE) and simulation, with the majority of literature focused on learners in medicine, nursing, and/or pharmacy. Few studies have included respiratory therapy or paramedicine, two key professions in the ED environment.

Objectives: The purpose of this study was to evaluate the impact of IPE simulation on communication comfort between personnel from different professions.

Methods: Voluntary participants consisting of EM residents, nurses, pharmacy residents, respiratory therapy (RT) students, and paramedics were divided equally into interprofessional teams. Each team rotated through high-fidelity simulations with three different ED scenarios (trauma, medical, and error disclosure). Participants completed an anonymous pre- and post-simulation survey consisting of both Likert scale and free text questions which included a self-assessment of their communication ability and contribution to the team, as well as questions pertaining toward interactions with the other members of the health care team.

Table 1. Comparison of learners' pre- and post-simulation responses.

Item	N	Pre Mean	Pre SD	Post Mean	Post SD	Post-Pre	*p* value
Self-Assessment							
Confident in ability to communicate effectively about patient care	38	4.03	0.59	4.42	0.55	0.395	.000***
Comfortable speaking up in situations regarding patient safety	38	4.24	0.54	4.58	0.50	0.342	.000***
Comfortable requesting for help when needed	38	4.53	0.73	4.74	0.45	0.211	.073
Confident in ability to be a patient advocate	38	4.32	0.62	4.53	0.51	0.211	.058
Confident in ability and responsibilities as part of the health care team	38	3.95	0.73	4.42	0.55	0.474	.000***
Respected by members of the health care team	38	4.13	0.67	4.61	0.55	0.474	.000***
Communication with Physicians							
Trust and respect my opinions about patient care	14	3.86	0.66	4.57	0.65	0.714	.003**
Comfortable approaching with a question	14	4.21	0.89	4.79	0.43	0.571	.006**
Comfortable asking for feedback	14	4.00	0.78	4.57	0.51	0.571	.014*
Comfortable approaching about their potential error	14	3.36	1.08	4.36	0.75	1.000	.000***
Comfortable approaching about own error	14	3.86	0.66	4.64	0.50	0.786	.000***
Resistant to my advice about patient care	14	2.93	1.00	3.14	1.61	0.214	.551
Communication with Nurses							
Trust and respect my opinions about patient care	33	4.03	0.59	4.39	0.50	0.364	.000***
Comfortable approaching with a question	33	4.55	0.62	4.73	0.545	0.182	.083
Comfortable asking for feedback	33	4.18	0.88	4.55	0.67	0.364	.008**
Comfortable approaching about their potential error	33	3.58	1.00	4.21	0.78	0.636	.000***
Comfortable approaching about own error	33	4.16	0.72	4.59	0.50	0.438	.000***
Resistant to my advice about patient care	33	2.27	0.76	2.24	1.28	-0.030	.895
Communication with Pharmacists							
Trust and respect my opinions about patient care	32	4.03	0.65	4.47	0.51	0.438	.000***
Comfortable approaching with a question	32	4.59	0.62	4.78	0.42	0.188	.110
Comfortable asking for feedback	32	4.31	0.82	4.63	0.61	0.313	.016*
Comfortable approaching about their potential error	32	3.50	1.14	4.22	0.91	0.719	.001***
Comfortable approaching about own error	32	4.31	0.64	4.59	0.50	0.281	.005**
Resistant to my advice about patient care	32	2.44	0.95	2.13	1.13	-0.313	.039*
Communication with Respiratory Therapists							
Trust and respect my opinions about patient care	36	4.14	0.64	4.50	0.51	0.361	.001***
Comfortable approaching with a question	36	4.58	0.50	4.64	0.49	0.056	.324
Comfortable asking for feedback	36	4.39	0.60	4.58	0.50	0.194	.033*
Comfortable approaching about their potential error	35	3.60	1.01	4.23	0.65	0.629	.000***
Comfortable approaching about own error	36	4.28	0.66	4.53	0.56	0.250	.018*
Resistant to my advice about patient care	36	2.39	1.15	2.19	1.39	-0.194	.242
Communication with Paramedics							
Trust and respect my opinions about patient care	34	4.32	0.68	4.56	0.56	0.235	.009**
Comfortable approaching with a question	34	4.53	0.62	4.65	0.54	0.118	.211
Comfortable asking for feedback	34	4.26	0.75	4.50	0.62	0.235	.073
Comfortable approaching about their potential error	33	3.88	1.17	4.33	0.78	0.455	.002**
Comfortable approaching about own error	34	4.24	0.82	4.59	0.56	0.353	.002**
Resistant to my advice about patient care	34	2.35	1.28	2.38	1.37	0.029	.869

*Paired-sample t-tests were run to measure the significance of difference between pre-intervention and post-intervention responses, defined as $p<0.05$.

Results: Thirty-eight members from the five health care professions participated in the simulation day in July 2017. In the self-assessment, significant improvements in communication about patient care, patient safety, and confidence as a member of the health care team were found post-simulation ($p < 0.0001$ for all three areas). Participants felt significantly more comfortable approaching all of the other health care disciplines about error ($p < 0.05$). There was also an increase in overall trust and respect among the providers ($p < 0.05$). However, there was no significant improvement in approaching nursing, pharmacists, RTs, or medics with questions.

Conclusions: This IPE simulation improved personal confidence in communication and identity as a member of a healthcare team. Learners perceived an increase in trust and respect among the various health care professions represented in this study, especially in regards to error reporting.

23 Is the Number of Intubations Correlated with Proficiency in Milestone PC10: Airway Management?

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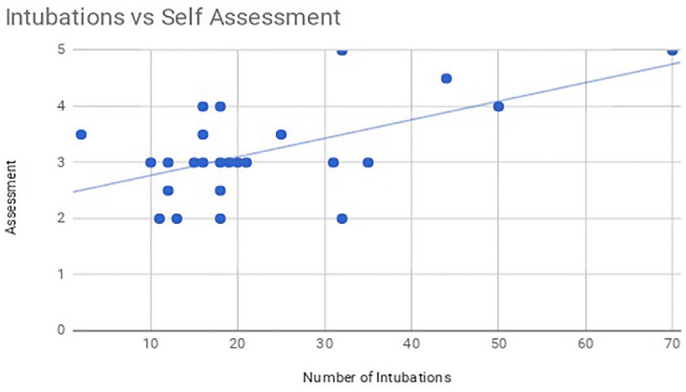
Background: It is a well-established tenet of medicine that more frequent performance of a procedure leads to increased competency. It is unclear, however, whether more frequent performance of a procedure correlates with improved self-assessment and core faculty assessment of the corresponding Emergency Medicine milestone.

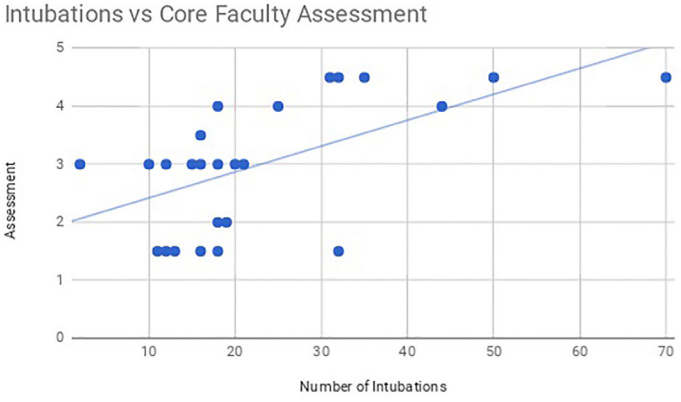
Objectives: We sought to determine if the number of intubations a resident has performed correlates with his self-assessment and with the core faculty's assessment of Milestone PC10: Airway Management.

Methods: Using the scoring system established by the American Board of Emergency Medicine, all residents (n=25) in a three-year residency completed self-assessments of the 23 milestones, including PC10: Airway Management. Core faculty also assessed all residents on the 23 milestones. The number of intubations performed by each resident was then recorded using their procedure logs. A Pearson correlation coefficient and significance level was calculated between self-assessment on PC10 and number of intubations, and also between core faculty assessment on PC10 and the number of intubations.

Results: All of 25 residents completed self-assessments and were evaluated by the core faculty. The correlation between self-assessment on PC10 and the number of intubations was R=0.57, ($p<0.05$). See Figure 1. The correlation between core faculty assessment on PC10 and the number of intubations was R=0.59 ($p<0.05$). See Figure 2.

Conclusions: Self-assessment and core faculty assessment of the Milestone PC10: Airway Management are well-correlated with the number of intubations a resident has performed. This suggests that the milestone is a reliable indicator of proficiency.





24 Learning Moment: Features of Online Asynchronous Learning Tools That Maximize Acceptance and Adoption by Medical Students

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Background: Recently introduced in the literature, Learning Moment (LM) is a novel, unique, web-based asynchronous educational tool designed to optimize experiential learning. Medical students log concise clinical pearls for reflection and review in the form of "learning moments", which are shared with peers among an entire community. Little is known about what features such educational tools like LM should have to maximize learner engagement.