How Gender Impacts On-Shift Evidence-Based Medicine Activity and Patient Care

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Introduction

Evidence-Based Medicine (EBM) skills allow EM providers to obtain and apply new information while on shift in the ED. The role of the gender of the EM provider and EBM activity has not previously been described. This project seeks to describe the relationship between EBM activity for direct patient care by EM residents and the gender of the physician.

Methods

This IRB approved study was conducted by a PGY 1-4 EM residency. Residents are required to complete logs of on-shift EBM activity in the program's procedure software system New Innovations.™ The logs are a convenience sample, with an N of 3-5 per 28-day EM rotation. The logs include a patient description, clinical question, search strategy, information found, and subsequent impact on patient care. Using qualitative methodology described by MacQueen (CAM 1998), a codebook was created to analyze resident free text to the prompt: "Based on your research, would you have done anything differently." Gender was dichotomized to male and female. Results are analyzed descriptively.

Results

Logs were completed by 137 residents, of which 46 were female (34%). From June 2013 to May 2020, 11,145 discrete logs were identified. Of these, 571 were excluded (298 incomplete and 273 duplicate), leaving 10,574 logs in the dataset for analysis. Of the 10,574 logs 3,663 were submitted by females (34.6%). The most common code denoted learning without impact on the current patient's care accounted for a third of the dataset (3,343 logs, 1,222 [36%] submitted by females). A total of 1,439 logs stated that EBM activity changed the care of the current patient and will impact their future practices. Of these practice changing logs 455 (31.6%) were completed by female residents. In the category coded as being influenced by others (i.e., attendings, consults) 39% of the submissions were by females.

Conclusions

In this single site cohort, the proportion of logs in the dataset closely matched the demographics of the residents. This is likely based on the submission requirement. Males logged that EBM activity changed patient care disproportionately more than females. Female residents were disproportionately more likely to log both learning new information without changing current care and to have the actual care of the patient influenced by others than males. These findings may be related to the self-reported nature of the database.

TABLE 1: QUALITATIVE ANALYSIS OF RESIDENT REPORTED APPLICATION OF EBM TO INDIVIDUAL PATIENTS WHILE ON SHIFT BASED UPON GENDER

Code	Meaning	Total (%)	Male (%)	Female (%)
231	The care of this patient was not influenced by what was looked up PLUS the care of future patients may be influenced by what was looked up PLUS the possible change in future care is based off of evidence OR The care of this patient was not influenced by what was looked up but learned something based on evidence that may be applied in the future OR A clinical question was asked without reference to a patient, and some useful information based on evidence was learned for possible future use	3343 (31.6)	2121 (63)	1222 (37)
331	The care of this patient may have been influenced by what was looked up PLUS the care of future patients may be influenced by what was looked up PLUS the possible change in present and future care is based off of evidence OR Evidence was found, but there was no indication of whether what was looked up influenced the care of this patient or will influence the care of future patients	2263 (21.4)	1479 (65)	784 (35)
221	The care of this patient was not influenced by what was looked up PLUS the care of future patients will be influenced by what was looked up PLUS this future change in care is based on evidence.	1319 (21.4)	866 (66)	453 (34)
211	The care of this patient was not influenced by what was looked up PLUS the care of future patients will be influenced by what was looked up PLUS this future change in care is based on evidence	1062 (10.0)	681 (64)	381 (36)
131	The care of this patient was influenced by what was looked up PLUS the care of future patients may be influenced by what was looked up PLUS this change in care is based on evidence	1047 (10.0)	710 (68)	337 (32)
311	The care of this patient may have been influenced by what was looked up PLUS the care of future patients will be influenced by what was looked up PLUS the change in future care is based off of evidence	443 (4.2)	309 (70)	134 (30)
111	The care of this patient was influenced by what was looked up PLUS the care of future patients will be influenced by what was looked up PLUS this change in care is based on evidence	392 (3.7)	274 (70)	118 (30)
431	The care of the present patient was influenced by outside influences (e.g., an attending physician made the decision, treatment was deferred to a specialist, the most efficacious treatment method was not able to be provided) PLUS the care of future patients may be influenced by what was looked up PLUS the possible change in future care is based off of evidence	265 (2.5)	172 (65)	93 (35)
227	The care of this patient was not influenced by what was looked up PLUS the care of future patients will not be influenced by what was looked up PLUS found contradictory evidence OR The care of this patient was not influenced by what was looked up PLUS the care of future patients will not be influenced by what was looked up PLUS the evidence found was outdated OR The care of this patient was not influenced by what was looked up PLUS the care of future patients will not be influenced by what was looked up PLUS the evidence found was insufficient/low quality and was not strong enough to change the decision on how to treat the current or future patients	97 (0.9)	64 (66)	33 (34)
411	The care of the present patient was influenced by outside influences (e.g., an attending physician made the decision, treatment was deferred to a specialist, the most efficacious treatment method was not able to be provided) PLUS the care of future patients will be influenced by what was looked up PLUS the change in future care is based off of evidence	80 (0.8)	49 (61)	31 (39)
Other	The aspects of evidence acquisition and application included scenarios not articulated in the above categories.	263 (2.5)	186 (71)	77 (29)

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