2013

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Does a Physician Advanced Directive Survey Predict Bedside Response in Simulated End of Life Scenarios?

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BACKGROUND

- Advanced directives (AD) are intended to direct patient's future medical care during periods of decision-making incapacity
- Professional societies advocate AD to support patient autonomy and promote nonmaleficence
- Emergency medicine (EM) graduate medical education leaders identify obtainment and interpretation of AD as a minimal core competency for residents

OBJECTIVES

- To assess EM resident accuracy in interpreting AD in the emergency department (ED) during simulated acute life-threatening medical events
- Secondary objective to evaluate differences in interpretation or clinical actions between an online AD survey and the identical simulation scenario

METHODS

- Single academic medical center observational study of consenting EM residents, adhering to Strengthening of Reporting of Observational Studies in Epidemiology (STROBE) criteria
- All participants completed online AD survey 2-months prior to a regularly scheduled simulation session
- Survey included participant demographics as well as six typical emergency scenarios with each case descriptor preceded by an AD (Boxes 1 and 2)
- Respondents assigned a code status and next most appropriate intervention for each patient
- The simulation lab occurred over 4-hours on one day and used the same 6 scenarios evaluated in the pre-simulation survey
- Participants were not reminded of the pre-survey and were asked to assign a code status using an electronic audience response system within 20-seconds after receiving the pre-hospital report
- Pre- and post-survey responses analyzed using contingency table analysis (Chi-square, Fisher's Exact Test)

Table: Descriptive Statistics for 17 Participants Completing Pre- and Simulation-Survey (N = 17)

Descriptor	Value (mean or proportion)
Age	30 ± 3
Male Gender	71%
Prior AD Training	0%
Medical School Region	
Midwest	65%
South	29%
Northeast	0%
West	0%
Resident Level	
PGY I	29%
PGY II	35%
PGY III	12%
PGY IV	24%

Box 1: Sample Advanced Directive

(My specific instructions to my family and health care providers)

I, _____, being of sound mind, willfully and voluntarily make this declaration to be followed if I become incompetent. This declaration reflects my firm and settled commitment to refuse life-sustaining treatment under the circumstances indicated below. I direct my attending physician to withhold or withdraw life-sustaining treatment that serves only to prolong the process of dying, if I should be in a terminal condition or in a state of persistent unconsciousness. I direct the treatment be limited to measures to keep me comfortable and to relieve pain, including any pain that might occur by withholding or withdrawing life-sustaining treatment. In addition, if I am in the condition described above, I feel especially strong about the following forms of treatment:

I ( ) do (x) do not want cardiopulmonary resuscitation.
I ( ) do (x) do not want electroconversion.
I ( ) do (x) do not want mechanical respiration.
I ( ) do (x) do not want tube feeding or any other artificial or invasive form of nutrition (food) or hydration (water)
I ( ) do (x) do not want blood or blood products.
I ( ) do (x) do not want any form of surgery or invasive diagnostic tests.
I ( ) do (x) do not want kidney dialysis.

After reading this Living Will, how do you interpret the following questions for an individual patient in the ED?

RESULTS

- A total of 47 residents completed either the pre-survey or the simulation lab, but only 17 completed both
- The 17 completing both surveys did not differ significantly from the 30 who did not by any demographic parameter measured (Table)
- Of the 26 pre-simulation respondents:
  - 69% assigned a DNR code to AD scenarios and 64% did not enact life-saving measures
  - senior residents (PGY 3 or 4) assigned DNR more frequently (81% vs. 60%) and were less apt to elect life-saving interventions (21% vs. 49%, p>0.05)
- Among the 29 simulation residents:
  - 50% interpreted the AD as DNR and 40% did not attempt any resuscitation
  - resident training level (PGY 3 or 4 vs. PGY 1 or 2) did not impact code status assigned (51% vs. 53%), but senior level residents more often opted for resuscitation (72% vs. 57%, p > 0.05)
- In the simulation lab resident training level did not impact code status assigned, but senior-level residents more often opted for resuscitation

CONCLUSION

- In assessing EM resident AD clinical response, physicians are more likely to provide life-sustaining actions in simulation than in internet surveys
- Senior-level residents tend to disregard AD more commonly in simulation than in surveys

Box 2: Sample Scenario

46 –year-old female presents with complaints of chest pain, shortness of breath and diaphoresis. Vitals: T: 37C, P: 110, BP: 130/70, RR: 30, SaO2: 97%. The patient has been given oxygen, aspirin, and nitroglycerin en route. Pre-hospital ECG shows acute anterior wall STEMI. EMS presents you with a list of medications and their living will. Abruptly her status changes as you evaluate her. She becomes unresponsive and develops VT/VF arrest.

Question 1: What is her code status based on her living will?
a) DNR
b) Full Code

Question 2: What is the next course of action?
a) Defibrillate
b) Don't defibrillate