The Effect of Bedside Presentations in the Emergency Department on Patient Satisfaction

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Abstract

Background Due to increasing time constraints, the use of bedside presentations in resident education has declined. We examined whether patient satisfaction in the emergency department is affected when first-year residents present at the bedside with attendings.

Methods We performed an observational, prospective, nonblinded study in the emergency department of a military teaching hospital. We alternately assigned first-year residents to present a convenience sample of 248 patients to the attending physician at the patient's bedside or away from the patient. We measured patient satisfaction by using the Patient Satisfaction Questionaire-18 (PSQ-18), a validated survey instrument that utilizes a Likert scale, and additional nonvalidated survey questions involving Likert and visual analog scales.

Results While the median PSQ-18 score of 74 (95% confidence interval [CI], 72–76) was higher for patient satisfaction when residents made bedside presentations than that for standard presentations, 72 (95% CI, 70–74), the difference did not reach statistical significance ($P = .33$).

Conclusion There was no significant difference in overall patient satisfaction between residents' bedside presentations and presentations to attendings away from the patient. Although not significant, the differences noted in PSQ-18 subscales of communication, general satisfaction, and interpersonal manner warrant further investigation. Patients did not appear to be uncomfortable with having their care discussed and with having subsequent resident education at the bedside. Future research on patient satisfaction after implementation of standardized bedside teaching techniques may help further elucidate this relationship.

Editor's Note: The online version of this article contains the survey instrument used in this study.

Background

The pace of care in the emergency department (ED) places extensive demands on physicians' time. Much of the time that ED physicians give to patient care is spent outside the patient's view. The education of resident physicians places further strains on attending physicians' time in academic EDs. Due to increasing time constraints, the use of bedside presentations in resident education has been in a constant state of decline.[1,2]

Despite the traditional role of bedside teaching in medical education,[1] studies regarding its utility have been limited. Medical residents have found it an effective way of learning clinical skills[3,6] and feel they are not given enough bedside teaching during their training.[3,4] Reported impediments to bedside teaching include lack of respect for the patient, noisy environment, time constraints, learner autonomy, faculty attitude, knowledge, overreliance on technology, and patient availability and acceptance.[5,6]

There are no data to show whether the decline in bedside teaching is due partly to the perception that patients may feel uncomfortable when frank educational discussions occur in their presence. A more thorough understanding of the experience from the patient's perspective may help clarify the relationship. The possibility that bedside presentations and subsequent teaching can improve patients' satisfaction in the ED has value and can validate the time invested in this educational effort.

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Previous research has examined the impact of bedside presentations on patient satisfaction but without utilizing a validated satisfaction instrument. Lehmann et al[7] suggested that for hospitalized patients admitted to an internal medicine service, there were no differences in patients' perceptions of their care when presentations were made at the bedside or in conference rooms. Landry et al[8] demonstrated improved parent satisfaction with bedside presentations in the pediatric intensive care unit, and Brandon et al[9] found that ED patients perceived their doctor was more interested in their care and had more concern about their privacy when rounds were performed at the bedside.

The primary goal of this investigation was to determine whether patient satisfaction in the ED, as measured by a validated survey instrument, was affected by bedside presentations between residents and attendings.

What was known

Patient presentation at the bedside is a valuable educational activity but has declined due to time constraints.

What is new

Patient presentation in the emergency department did not negatively affect patient satisfaction.

Limitations

Small convenience sample, single institution, non-blinded data collection may limit generalizability.

Bottom line

Case discussion and resident education at the bedside does not have a negative effect on patient satisfaction.

Methods

Study Design

We conducted an observational, prospective nonblinded study in the ED of a tertiary teaching hospital. The study received an exemption from full Institutional Review Board approval and included a waiver of written consent by participants. We obtained verbal consent from all participating patients and physicians prior to enrollment.

Study Setting and Population

This study was conducted in the ED of an academic military hospital in Southern California that cares for approximately 60 000 patients per year. Patients are primarily active-duty military, military retirees, and their families. The hospital is the primary site for numerous graduate medical education programs, including an emergency medicine residency. All interns spend approximately 1 month of their internship rotating through the ED. Interns involved in the present study were included from all locally available graduate medical education programs including surgery, internal medicine, pediatrics, obstetrics-gynecology, and psychiatry and transitional year. Participating attendings were all academic faculty, residency-trained, and board certified in emergency medicine.

Study Protocol

The study population included a convenience sample of 248 patients who presented to the ED between August 2008 and January 2009. Patients who were at least 18 years of age, without cognitive impairment, and medically stable were eligible for enrollment. The status of medically stable was defined as a patient who did not have an Emergency Severity Index[10] triage category of 1 or 2. Non-English speakers were excluded to ensure patients could complete the survey and understand any bedside interactions between attendings and interns.

We enrolled a convenience sample of patients during 8-hour shifts based on the availability of research assistants. Research assistants were blinded to the study hypothesis. Patients who were evaluated by the study authors were not eligible for enrollment. Each month, we asked interns rotating through the ED to participate in the study and informed them that participation was strictly voluntary and would have no impact on their evaluation. Patients enrolled in the study were assigned to receive presentations at the bedside or at the physician workstation in an alternating fashion with each intern in an effort to mitigate the influence of a particular physician on our results. Research assistants determined the presentation location and instructed interns where to present prior to each encounter. Research assistants did not directly observe the patient presentations. Patients were approached for enrollment prior to being seen by a provider and asked if they would be willing to complete a satisfaction survey at the conclusion of the provider's visit. Patients were not informed of the goal of the study.

Interns and attendings were told they were participating in a patient satisfaction study, but no further details were given. Interns were assigned to work exclusively with one attending physician during each clinical shift. All 18 full-time attendings who were not investigators on this study verbally agreed to participate. Contents of the survey questionnaires were not provided to participating attendings or interns. We did not educate attendings on preferred techniques relating to bedside teaching or how to manage their interns' encounters; attendings had discretion in handling the encounter in their usual fashion.

Prior to this study, the practice was to have patient presentations conducted at the physician workstation out of sight and hearing of the patients. Bedside presentations

were previously not a routine part of the educational process by any attending involved in this study. Surveys completed by patients were kept confidential and not revealed to the participating physicians.

Measurements

Research assistants obtained basic demographic information from enrolled subjects prior to ED discharge or inpatient admission. Participants then independently completed the questionnaire (provided as online supplemental material). The survey included the Short-Form Patient Satisfaction Questionnaire (PSQ-18). The PSQ-18 is derived from the 80-item Patient Satisfaction Questionnaire (PSQ),[11] which examines global satisfaction with medical care including 6 specific aspects: technical quality, interpersonal manner, communication, financial aspects of care, time spent with doctor, and accessibility of care.

The PSQ-18 is a shortened 18-item version that retains many characteristics of its full-length counterpart, which is in the public domain and does not require permission for use. Patients are asked to score questions using a 5-point Likert scale (ranging from strongly agree to strongly disagree). To control for acquiescent responses, the instrument contains both positively worded and negatively worded items. PSQ-18 subscales show acceptable internal consistency and reliability and are substantially correlated with one another. The PSQ-18 requires approximately 4 minutes to complete and can be particularly useful in settings where time limitations preclude administration of the full-length PSQ-III.[11]

In an effort to compare findings of this study with those of previous studies that did not use validated satisfaction questionnaires,[7] additional nonvalidated questions were included in the survey, utilizing both a Likert scale and a visual analog scale.

Data Analysis

We entered data into a spreadsheet database using Excel software (Microsoft Corp, Redmond WA) and analyzed them using Stata version 10.1 software (Stata Corp, College Station, TX). All continuous and ranked (rated) variables were reported as medians with binomial (asymmetric) 95% confidence intervals (CI) on the medians. Means provide insight on the effect of the distribution tails that do not appear in median reporting. All categorical variables were reported as frequency of occurrence with percent occurrence. We compared experimental group demographics with those of the control group by using the rank-sum test for continuous variables and Fisher exact test for categorical variables. Outcome scores of Likert scales in the PSQ-18, Likert scores of nonvalidated survey questions, and outcome scores of visual analog scale were compared using the rank-sum test.

A power analysis based on the most crucial questions in the PSQ-18, using an alpha value of 0.05, 80% power, and a standard deviation of 1.00 drawn from the PSQ-18 standardization publication,[3] estimated that a difference of 0.36 in a scale of 1 to 5 (10% of a typical mean of 3.6) can be detected with a sample size of 122 subjects per group. A consulting biostatistician performed all statistical calculations.

Results

A total of 29 interns, 18 attendings, and 248 patients participated, resulting in an overall participation rate of 97%. Demographics of survey participants are presented in TABLE 1. No significant differences among age, race/ethnicity, length of stay, or wait time until seen by a physician were noted between groups. The mean education level between groups was similar, although the group of patients who had bedside presentations had fewer high school and college graduates.

Overall PSQ-18 scores and subscales are listed in TABLE 2. No differences were noted in total PSQ-18 scores between the 2 groups. There was a trend favoring bedside presentations in the subscales of general satisfaction, communication, technical aspects of care, and interpersonal manner, although these differences did not reach statistical significance. Using a visual analog scale, patients were asked to score their overall satisfaction, and no differences were noted between satisfaction with bedside presentations (84.2 mm) and that with standard presentations (84.1 mm) ($P = .66$).

The nonvalidated survey questions showed no significant differences in Likert scores between the 2 groups. The first 3 questions (physicians explained medical problems adequately, physicians introduced themselves properly, and physicians took my medical privacy seriously) showed median scores of 1 and confidence limit (CL) of (1, 1) for both groups. Respective *P* values were .22, .24, and .25. The final question (too much confusing medical terminology was used by physicians) showed a median response of 4, with CL of (4, 4) for both groups, with a *P* value of .86.

Additional information was obtained from patients who received bedside presentations. Of those patients who received bedside presentations, 86.5% of patients disagreed or strongly disagreed with the statement that "Discussing my care at the bedside made me uncomfortable." Most (78.4%) patients agreed or strongly agreed with the statement that "The practice of giving presentations at the bedside should continue." A significant majority (84.5%) of patients agreed or strongly agreed with the statement

TABLE 1 **Participant Demographics**

Variable	Bedside Presentation				Remote Presentation				*P* value
	Median	95% CI[a]	No.	%	Median	95% CI[a]	No.	%	
Total encounters	124				124				
Age (y)	38	(30, 45)			34	(30, 41)			.95
Length of stay (min)	257	(214, 301)			268	(234, 306)			.80
Wait time (min)	44	(37, 57)			46	(40, 59)			.53
Sex									
Men			44	35.8			53	42.7	.29
Women			79	64.2			71	57.3	
Race/ethnicity									
Asian			18	15.0			23	18.8	.49
Black			15	12.5			23	18.8	
Pacific Islander			2	1.7			3	2.5	
White			66	55.0			57	46.7	
Latino			19	15.8			16	13.1	
Educational Level									
Some high school			7	5.7			1	0.8	.05
High school graduate			24	19.5			30	24.4	
Some college			56	45.5			66	53.7	
College graduate			36	29.3			26	21.1	

Abbreviations: CI, confidence interval.

[a] Binomial (asymmetric) 95% CI.

that "The bedside presentation helped me better understand my medical condition."

Patients were also asked to quantify the amount of time the emergency physician spent on their care during the visit. There were no significant differences between the group with results of 120 minutes for those receiving bedside presentations versus 124 minutes for those whose presentations were remote ($P = .66$).

Discussion

To our knowledge, our study is the first to use a validated survey instrument to quantify the influence of bedside presentations on patient satisfaction. Results showed higher satisfaction in patients who received bedside presentations for the subscales of general satisfaction, communication, technical aspects of care, and interpersonal manner, although the difference was not statistically significant. This study was powered for a 10% difference, and a larger sample might have found a statistically significant difference. Generally, communication with patients in the time-sensitive environment of the ED is a challenge. Discussion of a differential diagnosis with residents in the presence of the patient may be valuable in enhancing patients' understanding of their medical conditions, and this may be reflected in the results.

Our findings were similar to those of previous research, where presentation location demonstrated no significant difference in patients' perceptions regarding explanations of medical problems, appropriate physician introductions, and concerns regarding privacy.[7] In contrast, a study of parents of pediatric patients who witnessed bedside presentations, using a visual analog scale, found a small yet statistically significant improvement in satisfaction.[8]

Some of the concerns regarding bedside presentations did not appear to have been major issues for the patients in our study. For those who received bedside presentations, a significant majority felt comfortable, thought it helped them in understanding their condition, and believed the practice should continue. The design of the study did not allow patients who received bedside presentations

TABLE 2 **Median and Mean Total and Subscale Scores of the PSQ-18**

	Bedside Presentation			Remote Presentation			
PSQ-18 scale	**Median**	**95% CI**	**Mean**	**Median**	**95% CI**	**Mean**	***P* value**
Total score	74	(72–76)	71.3	72	(70–74)	68.4	.33
General satisfaction	4.5	(4.0, 4.5)	4.12	4.0	(4.0, 4.5)	3.95	.11
Technical aspects	4.2	(4.1, 4.5)	4.19	4.0	(4.0, 4.2)	4.09	.15
Interpersonal manner	4.5	(4.5, 4.5)	4.33	4.5	(4.0, 4.5)	4.19	.15
Communication	4.5	(4.5, 4.5)	4.41	4.5	(4.0, 4.5)	4.24	.05
Financial aspects	5.0	(4.5, 5.0)	4.46	5.0	(4.5, 5.0)	4.55	.57
Time spent	4.0	(4.0, 4.0)	3.96	4.0	(4.0, 4.0)	3.89	.43
Accessibility	3.5	(3.5, 3.8)	3.60	3.8	(3.5, 4.0)	3.74	.18

Abbreviations: PSQ-18, Patient Satisfaction Questionaire-18; CI, confidence interval.

to experience an alternative method of care, making comparisons difficult. However, this positive response may allay provider concerns that presentations at the bedside may confuse patients or violate their privacy.

Limitations

Our study had several limitations. We were unable to completely control for the influence of the attendings on our results. Involvement of individual attendings was not recorded, and it is possible that the results may reflect a particularly strong influence by relatively few attendings. The quality of care provided by nurses, ancillary services, and consultants was neither controlled nor measured and likely influenced patients' overall satisfaction.

Based on our results, our baseline satisfaction rates appear to be higher than those described in the PSQ-18 standardization publications,[11] which may have limited our ability to demonstrate a difference with bedside teaching. Possibilities for the generally high levels of satisfaction include historical ties most patients have to the military, the lack of barriers to access, and the relatively low out-of-pocket medical costs in this population. Also, as our study used a convenience sample, it is possible that our results represent selection bias.

The PSQ-18 is a questionnaire derived in ambulatory care settings. It is not specific to the ED, and the accessibility and financial aspects subscales of the instrument may have limited utility when evaluating the effect of bedside presentations in the ED. A review of the literature did not provide evidence of a validated instrument exclusively trialed in the ED. We opted to utilize an open source survey that was readily available and could easily be replicated without financial constraints. Finally, the study was performed at a single institution with a unique population of active military, dependents, and retirees. Results may lack external validity. Further investigation with heterogeneous populations will be needed to determine whether our findings are generalizable.

Conclusions

No statistically significant differences in overall patient satisfaction, as measured by the PSQ-18, were noted between the use of bedside intern presentations and presentations made to attendings away from the patient. Although not significant, increased satisfaction in the subscales of general satisfaction, communication, technical aspects of care, and interpersonal manner were found for patients who received bedside presentations and may warrant further investigation. Most patients were comfortable with bedside presentations, supported their continued use, and felt that bedside presentations helped them better understand their medical condition. Future research on patient satisfaction after implementation of standardized bedside teaching techniques may help further elucidate this relationship.

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