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Perceived Appropriateness of Shared Decision-Making in the Emergency Department: A Survey Study

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Abstract

Objective—To describe perceptions of practicing emergency physicians regarding the appropriateness and medicolegal implications of using shared decision-making (SDM) in the emergency department (ED).

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Author Contributions Statement: MP and HK conceived the study and developed the research questions. MP, HK, DF, and EP developed the survey tool. MP, HK, KMN obtained the data and planned the analysis. LR provided advice on methodology, data analysis, and supervised the research. MP and GW analyzed the data. MP drafted the manuscript, and all authors contributed substantially to its revision. MP takes responsibility for the paper as a whole.

Methods—We conducted a cross-sectional survey of emergency physicians (EPs) at a large, national professional meeting to assess perceived appropriateness of SDM for different categories of ED management (e.g. diagnostic testing, treatment, disposition) and in common clinical scenarios (e.g. low-risk chest pain, syncope, minor head injury). A 21-item survey instrument was iteratively developed through review by content experts, cognitive testing, and pilot testing. Descriptive and multivariate analyses were conducted.

Results—We approached 737 EPs; 709 (96%) completed the survey. Two thirds (67.8%) of respondents were male, 51% practiced in an academic setting; 44% in the community. Of the 7 management decision categories presented, SDM was reported to be most frequently appropriate for deciding on invasive procedures (71.5%), computed tomography (CT) scanning (56.7%), and post-ED disposition (56.3%). Among the specific clinical scenarios, use of thrombolytics for acute ischemic stroke was felt to be most frequently appropriate for SDM (83.4%), followed by lumbar puncture to rule out sub-arachnoid hemorrhage (73.8%), and CT head for pediatric minor head injury (69.9%). Most EPs (66.8%) felt that using and documenting SDM would decrease their medicolegal risk while a minority (14.2%) felt it would increase their risk.

Conclusions—Acceptance of SDM among emergency physicians appears to be strong across management categories (diagnostic testing, treatment, and disposition) and in a variety of clinical scenarios. SDM is perceived by most EPs to be medicolegally protective.

Introduction

Shared decision-making (SDM), a process by which “the clinician offers options and describes their risks and benefits, and the patient expresses his or her preferences and values” in order to reach a health care decision based on mutual agreement, has been described as a key component of patient-centered care.[1] Although the general concept of SDM has likely been present in emergency medicine for decades,[2] the adoption of the term “shared decision-making”, and its formal evaluation in the Emergency Department, has only recently begun.[3] Given the multitude of treatments, diagnostic tests, and clinical pathways available to Emergency Physicians (EPs), there are often clinical scenarios where more than one medically reasonable course of action exists. Although there are situations when there is one clearly superior path (e.g. head trauma in a comatose patient requires neuroimaging), for many other Emergency Department (ED) decisions, there are several medically reasonable options. In this context, SDM is also an expression of a fundamental medical ethical tenant: the principle of respect for autonomy whereby a competent, informed patient should be actively involved in his/her medical decisions.[4]

There are often scenarios in which SDM is not appropriate including situations where only one medically reasonable option exits, where the patient does not have decision-making capacity (e.g., altered mental status, acute psychosis, dementia), or when the patient requests to *not* be involved in the decision-making process. These scenarios are usually easily recognized by the EP.

The potential benefits of SDM include increased knowledge, satisfaction, and decreased decisional conflict among patients, and increased satisfaction among providers.[5-7] Furthermore, in certain scenarios, SDM may be a means to safely reduce healthcare resource

utilization since patients may choose less aggressive care than is often given.[5, 8, 9] The potential harms of SDM include increased patient anxiety by providing excessive information or by requesting that they become involved in a decision they do not feel equipped to weigh in on[10]. Effective communication with patients can help the EP recognize such situations and then revert back to unilateral decision-making thus mitigating these potential harms.

Decision aids are evidenced-based tools designed to increase patient understanding of medical options and possible outcomes.[11] The first randomized clinical trial conducted in the ED comparing use of a decision aid to usual care demonstrated that SDM for patients with low-risk chest pain led to greater patient knowledge and satisfaction, fewer admissions for cardiac stress testing, and no difference in adverse cardiac events.[12] Further trials investigating decision aids to facilitate SDM in the ED for the evaluation of pediatric blunt head trauma and low-risk chest pain are ongoing.[13, 14] Further delineating which ED clinical scenarios are appropriate for SDM was identified as a research priority by the patient-centered outcomes research task force from the 2015 Academic Emergency Medicine Consensus Conference.[15] Notably, SDM will be the focus of the 2016 Consensus Conference. SDM was also proposed as a level C recommendation for the use of intravenous tPA for ischemic stroke in the 2015 draft version of the *American College of Emergency Physicians'* clinical policy on the management of acute ischemic stroke in the ED.[16] Despite the increased attention given to SDM, little is known regarding when and how SDM can be optimally employed in the ED.

In order to integrate SDM into ED clinical practice, it is important to obtain a board cross-section of input from practicing EPs regarding which scenarios they perceive SDM to be potentially appropriate in. This information could then direct future efforts at developing ED decision aids and prioritize subsequent research for these particular clinical situations. Recent studies surveying EPs have suggested that the primary barriers to incorporating SDM into clinical practice are the perceptions that 1) patients would prefer their doctors make decisions for them, 2) patients are ill-equipped to participate in decision-making, and 3) that SDM could affect medicolegal risk.[17] Assessing the opinion of EPs on this topic is important to characterize facilitators and barriers to implementation of SDM interventions.

The goal of this survey study was to broadly describe the perceived appropriateness of SDM among a large cross-section of EPs practicing in the United States (US) for different types of general management decisions (diagnostic testing, treatment, and disposition) and in various common clinical scenarios. Secondly, we evaluated how using and documenting SDM affected EPs' perceived medicolegal risk.

Materials and Methods

Study Design and Population

This was a cross-sectional convenience sample survey of emergency physicians. Instrument design and validation are described below. All study procedures were reviewed and exempted by the Institutional Review Board of our institution.

Survey respondents were recruited at the 2014 American College of Emergency Physician's (ACEP) Scientific Assembly in Chicago, Illinois. To be eligible for inclusion, participants needed to be practicing attending emergency physicians or fourth-year emergency medicine residents in the US. Potential participants were approached to participate in a 2-page written survey while in the exhibit hall where a booth had been obtained using funds from the Department of Emergency Medicine at our hospital. The booth remained open during all exhibit hours (9 AM to 4 PM) for three consecutive days. As an incentive, participants were offered entrance into a raffle to win a $100 gift card. A five-person team consisting of two of the authors (MP, HK), one senior resident, and two research assistants approached potential participants walking by the booth by first asking if they were an emergency physician. If yes, they were asked to fill out the survey. Eligible participants were deemed non-respondents if they declined the invitation to participate in the survey.

Methods of Measurement

We developed a 21-item survey instrument (appendix 1) to assess emergency physicians' perceptions about SDM in the ED. Basic demographic information (e.g. age, gender, location, practice setting) was collected followed by a short definition of SDM with specific examples relevant to emergency medicine. We used Likert-type scales (i.e. “All of the time”, “Most of the time”, “Some of the time”, “Rarely”, and “Never”) to assess the perceived appropriateness of SDM for different categories of ED management (e.g., diagnostic testing, treatment, disposition) and for specific clinical scenarios (e.g., neuroimaging for mild head injury, thrombolytics for acute ischemic stroke).

As described in detail below, items were included in the final survey tool based on their potential suitability for SDM. Intentionally, one clinical situation generally inappropriate for SDM (antibiotics for severe sepsis) was included to encourage careful reading and deliberation on the part of the respondent. Respondents were also given an option to write in other clinical situations they perceived to be appropriate for SDM in emergency care. Respondents were then asked to select the top three clinical scenarios for which they perceived SDM to be most appropriate. The final survey item assessed the perceived effect of using and documenting SDM on medicolegal risk using a Likert-type scale: “substantially increase”, “slightly increase”, “not change”, “slightly decrease”, or “substantially decrease” medicolegal risk.

The initial draft of the survey instrument was created by the authors (MP, HK) with the assistance of senior researchers with expertise in SDM (EH, DF). The tool was then modified after qualitative analysis of a focus group of 6 emergency physician researchers at our home institution. The tool was then individually reviewed by 8 clinical emergency physicians (community and academic) followed by cognitive interviews with each to obtain specific feedback on content and clarity. Survey items were included if they were felt to have a high potential for SDM based on the opinion of the authors and feedback from the emergency physicians in the focus group and interviews. Different clinical scenarios were iteratively substituted until consensus had been reached. The penultimate stage of survey development involved quantitative assessment of content and construct validity with regard to clarity, relevance, and understandability (appendix 2) using 7 expert academic emergency

physicians as has been done in previous survey studies of emergency providers.[18] Finally, pilot-testing of the survey was conducted on 100 emergency physicians (senior residents and attending physicians) from two academic institutions and one regional academic emergency medicine conference. After a preliminary data analysis, the final survey instrument underwent minor phrasing and formatting revisions prior to use at the 2014 ACEP Scientific Assembly.

Data Analysis

For clarity of reporting, we collapsed the top two (all/most of the time) and bottom two (rarely/never) response categories for the survey items pertaining to decision categories and specific clinical decisions. Frequency counts for each item were tabulated and ordered from most often appropriate to least often appropriate. For the "ranking of top three clinical scenarios" question, equal weighting was given to all three responses. For the final (medicolegal risk) question, simple frequency counts were tabulated. An "SDM composite" score was created by assigning a score of 1 (for "Never") to 5 (for "All of the time") for 17 survey items with higher scores indicating a greater endorsement of SDM.

All analyses were performed using SAS (version 9.3; SAS Institute Inc., Cary, NC). Descriptive statistics using means and percentages are presented. The SDM composite score was regressed on all demographic variables. The funding organizations played no role in the study design, data acquisition, or analysis.

Results

Characteristics of Study Subjects

We approached 737 EPs at the 2014 ACEP Scientific Assembly of whom 709 (96%) completed the survey and were included in the analyses (appendix 3). The median age of our respondents was 39.5 years and two thirds were male, reflecting the demographics of US EPs.[19] Our sample was somewhat less experienced than the US EP workforce as a whole. About half of respondents worked at a university/teaching hospital. We achieved fairly wide geographical representation with respondents from 47 states, Washington D.C., and Puerto Rico. See Table 1 for further respondent characteristics.

Main Results

Overall, respondents reported that SDM was often appropriate for ED management decisions. Among management categories, "invasive procedures" was most frequently cited as appropriate for SDM all/most of the time (71.5%), followed by "Computed Tomography (CT) ordering" (56.7%) and "Disposition" (56.3%) (Table 2). Among specific clinical scenarios, "intravenous tissue plasminogen activator (IV tPA) for acute ischemic stroke" was most frequently cited as appropriate for SDM all/most of the time (83.4%), followed by "Lumbar puncture (LP) for sub-arachnoid hemorrhage (SAH) after negative head CT (73.8%) and "CT head for pediatric minor head injury" (69.9%)(Table 3). Less than 1% of respondents opted to write in "other" responses for clinical scenarios appropriate for SDM. Examples of such responses include CT scan for possible appendicitis/pancreatitis and administration of the rabies vaccine.

When respondents were asked to rank the top three clinical scenarios most appropriate for SDM, these aggregated responses were nearly identical to the results above. “Intravenous tPA for acute ischemic stroke” was most commonly cited, followed by “CT head for pediatric minor head injury,” and “LP for SAH after negative head CT”.

Most respondents reported that using and documenting SDM would decrease their medico-legal risk either slightly (37.9%) or substantially (28.9%). A minority of respondents felt that this would increase their medicolegal risk slightly (8.3%) or substantially (5.9%). The remainder felt that it would not change their risk (19.0%).

Multivariate regression revealed that none of the demographic variables were statistically significantly associated with the “SDM composite” score (See Appendix 4). Of note, we found no significant differences between academic and community EPs with respect to overall endorsement of SDM (coefficient -0.96, p=0.58), after controlling for other covariates, suggesting that this concept has permeated the emergency medicine community. As well, our multivariate regression found no significant association between years of experience (categorized as under 5 years, 5-10 years, or over 10 years of experience) and overall endorsement of SDM (coefficient 0.09, p=0.57).

Discussion

The formal study of SDM is a relatively new phenomenon within emergency medicine. Only a small number of studies have been published in this area.[12, 20-23] Despite the reported benefits, EPs perceive challenges to integrating SDM into actual clinical practice.[17] Nonetheless, our results suggest that, in general, EPs in our sample felt that SDM was often appropriate in emergency care.

It appears that SDM was held in a positive light by most of our sample. With the exception of antibiotics for severe sepsis, all other clinical scenarios elicited positive responses (i.e. appropriate all/most of the time) from at least half of the respondents. This likely reflects a widespread awareness of patient-centered care in the ED and respect for patient autonomy; a trend that has been observed across medicine at large in the last generation.[24-27] SDM has been described as an essential part of patient-centered care.[1, 28] This positive connotation may have served to create social desirability bias in favor of endorsing SDM. For this reason, we advise caution in interpreting the raw percentages of the responses and rather suggest focus be placed on the relative appropriateness of different management categories and clinical scenarios. Our survey items were intentionally short and generic since providing additional clinical detail could have distracted the respondents and caused them to focus on the perceived appropriateness of the hypothetical work-up and not on the general concept of SDM for a broad category of patients. Rather, we opted to invoke concepts that we felt were familiar to EPs such as “chest pain/syncope with a negative ED work-up”.

Our results also suggest that most EPs in our sample believe that use of SDM is medicolegally protective. Possible explanations for this include the opinion that SDM is a reliable way of building rapport with patients, which may decrease the likelihood of legal action being sought in the event of an adverse outcome.[29, 30] Additionally, it may be

believed that if patients take a more active role in their medical decisions, responsibility for the clinical outcome will be shared between the patient and physicians instead of solely with the physician as might be expected in a more paternalistic model of care. SDM has been found to be potentially medicolegally protective in the context of prostate cancer screening.[31]

With regard to when SDM is appropriate in emergency care, it appears that EPs surveyed tended to favor this approach for decisions that are either higher risk or associated with controversy/uncertainty. This is suggested by the high degree of reported appropriateness for "invasive procedures" and thrombolytic therapy for stroke. The latter clinical scenario is well-known to be an area of controversy within emergency medicine.[32, 33] EPs may prefer to engage in SDM for higher risk procedures and therapies in order to "share" the moral/legal burden in the event of a sub-optimal outcome. Additionally, EPs may be more likely to find SDM appropriate in situations where they feel current practice patterns represent an area of over-testing, e.g. LP for SAH, or CT head for pediatric blunt head trauma,[34] but yet feel pressured to perform the test to comply with a perceived "standard of care."[35] Thus, SDM could be a means to reduce over-testing in emergency care.[12, 35]

The results of our study could guide future research efforts aimed at implementing SDM in particular clinical scenarios – such as acute ischemic stroke, pediatric blunt head trauma, LP for SAH, or syncope with a negative ED work-up – through the development of patient-targeted decision support interventions, also known as decision aids. As noted above, the latest version of the ACEP clinical policy on the management of acute ischemic stroke in the ED proposed SDM as a level C recommendation (expert consensus) for the use of intravenous tPA for ischemic stroke in both time intervals: 0-3 hours and 3-4.5 hours. The development and implementation of a decision aid for thrombolytic therapy in acute ischemic stroke would require a multi-stakeholder initiative with input from both neurologists and patient representatives, since this decision is often made in consultation with a stroke neurologist. The time-sensitive nature of this therapy could also pose logistical and psychological issues that increase stress on patients and families.[36] More work is needed to evaluate the feasibility of a SDM approach in this context. Decision aids pertaining to neuroimaging of the child with minor head trauma and for adults with low-risk chest pain have been developed and are currently being evaluated.[12, 14, 37] SDM for the disposition syncope patients with a non-diagnostic ED evaluation is fertile ground for future research.[38] To our knowledge, no SDM tools for the evaluation of patients with possible SAH have been developed. Future research, using focus group and interview methodology, aimed at eliciting patients' and providers' opinions regarding when and how to employ SDM in the ED setting is indicated to further explore the nuances of this complex process. Overall, it appears that SDM is widely endorsed by EPs in our sample but further work is needed to elucidate when and how to best incorporate it into ED clinical practice.

Limitations

We surveyed a non-random sample of EPs. Our sample represents roughly 13% of the 5,470 physicians in attendance at the ACEP meeting. EPs who attend ACEP (and the exhibit hall) are self-selected and may differ in systematic ways from the total population of EPs in the

US. Academic EPs were over-represented in our sample, as compared to a recent ACEP workforce survey (51% vs 44%), and may have different views on SDM than EPs practicing in community settings. However, we were able to recruit 313 community EPs to complete the survey, allowing us to compare the two groups and found no significant difference in overall endorsement of SDM. As well, the relative inexperience of our respondents, compared to the US EP workforce, may have introduced bias. As in any survey study, there is potential for social desirability bias, which may have inflated the perceived appropriateness of SDM. Consequently, we recommend that the relative position of the clinical scenarios and decision categories be emphasized as opposed to the raw percentages of each. Our survey study is only able to measure what EPs report but not if and when they actually perform SDM in practice. Studies have shown that providers often overestimate how often they perform SDM.[39, 40] While survey studies only permit exploration of this topic in limited depth, it is the most effective way to obtain input from a large cross-section of EPs across the country. Finally, our survey sought to elicit opinions from physicians, a key stakeholder in the clinical encounter, but did not elicit opinions from other key stakeholders such as patients, caregivers, and policy makers. Funding for this study was provided by the Department of Emergency Medicine at our institution.

Conclusions

Based on the results of your study, acceptance of SDM among emergency physicians surveyed appears to be strong across management categories (diagnostic testing, treatment, and disposition) and in a variety of clinical scenarios. Endorsement of SDM appears to be high regardless of demographics or practice setting. SDM is perceived by most EPs in our sample to be medicolegally protective.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1
Characteristics of Participating Emergency Physicians

Demographics	**Number (%) or Mean**
Age in years, median (range)	39.5 (27-78)
Gender	Female 228 (32.2%) Male 481 (67.8%)
Clinical Experience	
Years in practice	0-5 years: 295(41.6%) 6-10 years: 95 (13.4%) 10+ years: 319 (45.0%)
Board Certified	Yes: 463 (66.5%) No: 233 (33.5%)
Practice Type	
University/Teaching	359 (50.6%)
Community	313 (44.1%)
Other	37 (5.2%)

Table 2

Appropriateness of shared decision-making for Emergency Department management decisions

Decision Category	All/Most of the time	Some of the time	Rarely/Never
Invasive procedures	494 (71.5%)	156 (22.6%)	41 (5.9%)
CT ordering	392 (56.7%)	245 (35.5%)	54 (7.8%)
Disposition (Discharge vs. admit)	391 (56.3%)	251 (36.2%)	52 (7.5%)
MRI ordering	382 (55.3%)	183 (26.5%)	126 (18.2%)
Medical therapies (e.g.antibiotics, analgesics)	381 (54.9%)	251 (36.2%)	62 (8.9%)
X-ray ordering	285 (41.1%)	293 (42.3%)	115 (16.6%)
Lab testing	251 (36.3%)	289 (41.8%)	152 (22.0%)

CT: Computed Tomography; MRI: Magnetic Resonance Imaging.

Table 3

Appropriateness of shared decision-making for specific Emergency Department clinical scenarios.

Clinical Scenarios	All/Most of the time	Some of the time	Rarely/Never
IV tPA for acute ischemic stroke	568 (83.4%)	75 (11.0%)	38 (5.6%)
LP to rule-out SAH after negative Head CT	507 (73.8%)	114 (16.6%)	66 (9.6%)
CT Head for pediatric minor head injury	479 (69.9%)	137 (20.0%)	69 (10.1%)
Disposition for low-risk chest pain with negative ED workup	468 (68.2%)	158 (23.0%)	60 (8.7%)
Disposition for syncope with negative ED workup	444 (64.7%)	173 (25.2%)	69 (10.1%)
CT Angiography for a stable patient at low risk for PE	437 (64.1%)	169 (24.8%)	76 (11.1%)
Disposition for stable patient with PE	425 (62.1%)	158 (23.1%)	101 (14.8%)
Disposition for stable patient with moderate community acquired pneumonia	423 (61.6%)	189 (27.5%)	75 (10.9%)
CT Head for adult minor head injury	408 (59.6%)	183 (26.7%)	94 (13.7%)
CT Abdomen for suspected renal colic in young males	391 (57.3%)	199 (29.2%)	92 (13.5%)

IV: Intravenous; tPA: Tissue Plasminogen Activator; LP: Lumbar Puncture; SAH: Subarachnoid Hemorrhage; CT: Computed Tomography; ED: Emergency Department; PE: Pulmonary Embolism.