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Medical Decision Making

Measuring critical deficits in shared decision making before elective surgery

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ABSTRACT

Objective: Identifying patient factors correlated with specific needs in preoperative decision making is of clinical and ethical importance. We examined patterns and predictors of deficiencies in informed surgical consent and shared decision-making in preoperative patients.
Methods: Validated measures were used to survey 1034 preoperative patients in the preoperative clinic after signed informed consent. Principal component analysis defined correlated groupings of factors. Multivariable analysis assessed patient factors associated with resultant groupings.
Results: 13% of patients exhibited deficits in their informed consent process; 33% exhibited other types of deficits. Informed consent deficits included not knowing the procedure being performed or risks and benefits. Other deficits included not having addressed patient values, preferences and goals. Non-English language and lower educational level were factors correlated with higher risk for deficits.
Conclusion: Deficits exist in over a third of patients undergoing preoperative decision-making. Sociodemographic factors such as language and educational level identified particularly vulnerable groups at risk for having an incomplete, and possibly ineffective, decision-making process.
Practice implications: Interventions to identify vulnerable groups and address patient centered surgical decision making in the pre-operative setting are needed. Focused interventions to address the needs of at-risk patients have potential to improve the surgical decision-making process and reduce disparities.

1. Introduction

Increasing patient involvement in pre-operative decision making is of increasing importance, with the Affordable Care Act encouraging shared decision making and others calling for specific requirements for decision aids and other tools to involve patients [1]. One basic element of patient involvement in decision making before surgical procedures is informed consent, which requires that the patient voluntarily authorizes the performance of a procedure with full understanding of the risks, benefits, outcomes, and alternatives [2]. Unfortunately, the literature demonstrates that few patients fulfill minimum standards for informed decision making in the office setting [3] and even after signing consent paperwork recall on surgical risks and benefits is poor [4,5].

Another aspect of pre-operative decision making is involvement in advance care planning (ACP) before surgery, which involves designating a health care proxy and specifying code status before the patient temporarily loses decision-making capacity under anesthesia, and potentially into the postoperative period and beyond. However, little quantitative data exists on the engagement of surgical patients with advance care planning and how this relates to their decision making for surgery, and there are few benchmarks to measure the quality of decision making in this setting.

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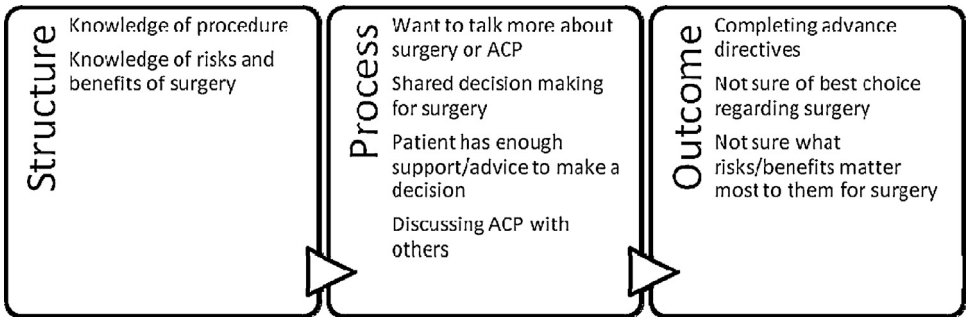

Fig. 1. Conceptual model: measuring quality of pre-operative decision making.

In order to start to measure quality in this setting, we propose a conceptual framework based on the Donabedian model of examining the quality of the structure, process, and outcome of decision making (Fig. 1) [6]. We define the structure of decision making or ACP to be what has been described in decisional conflict literature the information necessary for vigilant information processing, such as a grasp of alternatives, risks, benefits [7]. These elements also comprise the standards for the formal, legally mandated consent process before any surgery [8], so we described these elements as critical for high-quality pre-operative decision making.

The second domain of our model of decision making quality focuses on the process of decision making. For both surgery and ACP, we attempted to capture a non-ideal process by asking patients if they wanted to talk more about their decision. In this way, we are capturing those patients who desire further time or information to process their choice. In addition, we asked patients if they had discussed end of life wishes with anyone, as a gauge of their involvement with ACP.

Finally, we also included measures of positive outcomes of the decision-making process. While the ideal outcome for decision making in surgery is that the treatment is consistent with patient goals [9], our methods made it difficult to directly measure this. However, we did use a validated tool for decisional conflict that aims to capture patient uncertainty about whether their decision is best for them [10]. For ACP, we also focused on the completion of advance directives as these documents have been described by the Agency for Healthcare Research and Quality [11] as both increasing patient satisfaction and increasing the likelihood that end-of-life care is consistent with patient goals.

Given the sparse amount of data on pre-operative decision making, this study proposes the use of heuristic method of factor analysis in such situations to ask a broader question 'what is goes on here?' [10]. Exploratory factor analysis was conducted to clarify the patterns of ACP and surgical decision making in our patient population. In this way, the association between several outcome variables provided evidence of construct validity. Factor analysis also allowed us to define which patient populations had higher likelihoods of having the various patterns of decision making in order to target further interventions.

2. Methods

2.1. Participants

Institutional Review Board approval was obtained. Surveys were offered to all patients checking in for appointments at the preoperative assessment center of an academic tertiary care center over a two-month period in 2011. At the time of the preoperative clinic visit, patients already had met with their surgeons, and should have had discussions about risks and benefits and decided that they would proceed with the surgery. The preoperative assessment center completes necessary pre-operative testing and medication changes in preparation for anesthesia. Visits in the center are staffed by either physicians (typically anesthesiologists) or nurse practitioners. Patients completed the surveys while waiting for their preoperative appointments and returned the survey forms to the nurse or nurse practitioner. Nurse practitioners were surveyed on several additional variables following the patient visit. No identifiable patient information was collected and participation was voluntary.

2.2. Data collection

The patient survey contained 22 questions for patients and 6 for the nurse practitioners. Patients were asked about demographic variables including age, sex, race, first language and education level. They were also asked to report the surgical procedure they were evaluated for and the medical condition requiring surgery. They were then asked a number of questions relating to ACP and surgery decision making, as described below. NPs were asked to note whether patients had an oncological diagnosis and whether an ICU recovery was scheduled following their operation. In addition, the NP reported whether the patient was able to correctly identify their diagnosis and procedure and if any advance directives were in the patient's chart. This was reported as a binary 'yes' or 'no'. If the patient did not reply to the question of what their diagnosis or procedure is, that was considered missing data. NPs did not indicate what the correct diagnosis or procedure was on the survey, in order to decrease the burden on the NPs of completing this form.

After data were entered, review by an anesthesiology attending physician classified the procedure based on the American College of Cardiology/American Heart Association (ACC/AHA) as minor (e.g. hernia repair, dilation and curettage, minor biopsies), intermediate (e.g. knee replacement, thoracic surgery) or major (large open abdominal procedures) [12]. Diagnoses were categorized as definitely oncologic (containing the term 'cancer' or 'malignancy'), possibly oncologic (not containing 'cancer' but instead 'mass,' 'lump,' 'biopsy,' 'polyp,' 'growth,' 'lesion,' and 'pre-cancer') or non-oncologic diagnoses.

Before the full survey was completed, a pilot survey of 150 patients in this pre-operative population was undertaken. The pilot survey was also used to test phrasings of several questions that were not part of a validated tool in order to select for items with the highest response rate and variance. We did eliminate some questions from the pilot data that had either high amounts of missing data or low variability, such as questions about pain and anxiety around surgery. We also clarified terms such as advance care planning in order to increase our response rates.