

“Big Pros and Big Cons”: Factors Influencing Utilization of Shared Decision-Making in Low Back Pain from a Surgeon’s Perspective

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Abstract

Study design: Qualitative study design, using semi-structured interviews.

Objective: To characterize the shared decision-making (SDM) process from the perspective of orthopedic and neurosurgical physicians treating patients with low back pain (LBP).

Summary of background data: Unwarranted variations in quality and cost of healthcare for LBP persist. SDM is a process of informed consent that could improve patient education and outcomes. Its success depends on the quality of patient-physician communication. Lack of monolithic, cross-specialty, clinical guidelines for physicians treating LBP makes SDM especially important for this preference-sensitive condition. Therefore, further study of physician perceptions of the SDM process is warranted.

Methods: We conducted semi-structured, in-depth interviews in a sample of thirteen orthopedic and neurosurgeons that treated patients with LBP. Interviews were then transcribed, coded and qualitatively analyzed using a grounded theory approach.

Results: Detailed narratives of surgeons’ experiences and perspectives revealed varying interpretations of SDM. Some limited it to the patient-physician dyad, describing it as a process of educating patients about their illness, treatment options and optimum treatment goals. Others included inter-practitioner and systemic dimensions, hospital environment, physician-patient characteristics, physician-patient relationships and financial considerations as influential in SDM. Although physicians indicated SDM as beneficial in theory, patient expectations, the experience and attitude of the physician, and time pressure influenced the actual practice of it.

Conclusions: Patient-related barriers to SDM were unrealistic expectations, hidden motives, multiple morbid conditions and older age, while facilitators were fewer illnesses and younger age. Physician-level facilitators included younger age and SDM-related training or experience, while time constraints and specialty biases toward treatment options were barriers. The physician-patient relationship was deemed critical to SDM, but insurance coverage and treatment affordability limited the available choices.

Keywords: Shared decision-making; Qualitative interviews; Grounded theory; Low back pain; Orthopedic surgery; Neurosurgery

Introduction

Two-thirds of adult Americans suffer low back pain (LBP) at some point in their lives [1]. In 2006, 45.1 million health care visits in the United States (U.S.) were principally due to LBP [2]. A rising proportion of those visits are due to chronic, impairing LBP [3]. 20% of workers with LBP have to stop work at least temporarily and, among those who return to work, the pain still limits the type, range or duration of tasks that they can perform [2]. Treatment costs for back pain grew by over 65% from 1997 through 2005 [4]. Recent estimates of total annual direct and indirect costs due to LBP are as high as \$100 billion [2].

Despite the burden caused by LBP, variations in utilization of medical/surgical services persist across the U.S. [5]. Lack of unanimity among professional bodies regarding clinical guidelines for LBP [6-11] and provider non-adherence to guidelines [12,13] raise the importance of patient preferences as a basis for treatment. To facilitate this, patients, families, and physicians can engage in the communication-intensive process of *shared decision-making* (SDM) [14] in order to negotiate treatment selections. Although one study [15] found that patients were satisfied with medical encounters, provider communication skills are at times inadequate [15-17]. Qualitative studies [18,19] support the need for improved communication.

SDM is especially important in preference-sensitive conditions such as LBP, where spine surgery is often elective. When utilized, it has been found to reduce treatment costs. For example, decision aids for elective hip or knee procedures were found to lower costs by improving patient education [20,21]. However, SDM is a complex, multi-factorial, multi-dimensional, multi-stage process [22]. Illness severity, patient or physician age, practice location, and cultural or religious background can impact the SDM process [16,23-25]. Greater insight into facilitators/impediments of SDM has the potential to improve patient-physician communication and enhance healthcare for LBP.

Our primary goal, in this study, was to characterize SDM from the

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Received October 21, 2013; **Accepted** November 22, 2013; **Published** November 25, 2013

Citation: Knight RQ, Waddimba AC, Foster F, Alberts B, Sorensen J (2013) “Big Pros and Big Cons”: Factors Influencing Utilization of Shared Decision-Making in Low Back Pain from a Surgeon’s Perspective. J Spine 2: 146. doi:10.4172/2165-7939.1000146

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perspective of spine surgeons treating LBP. We aimed to develop an in-depth understanding of direct, hands-on physician experiences with SDM, especially provider attitudes, biases, and practice environments that influence the implementation of SDM, and patient characteristics perceived as impediments or facilitators to SDM. Such perspectives will shed light on process dissimilarities that cause variations in service selection. Health systems utilizing this information can then establish systematic guidelines to facilitate SDM as a means of improving patient and physician satisfaction.

Materials and Methods

Study design

This study aimed to investigate surgeons' perceptions of SDM in clinical practice. To capture this subjective data, we used qualitative interviews rather than quantitative surveys, which are, in contrast, a narrower, less dynamic research instrument. Additionally, individual interviews were chosen over focus groups so that practitioners could respond without being influenced by peers.

Sampling/recruitment

The characteristics of the study participants are outlined in Table 1. Of the twenty-four surgeons recruited to participate, nineteen were drawn from a list of orthopedic or neurosurgeons in private practices and academic centers in Central NY. Five private-practice physicians were also recruited from a regional list of spine-care surgeons in Rapid city, SD. Scheduling conflicts reduced the final sample to thirteen interviewees. Before signing an informed consent document, participants received a short explanation of the study objectives.

Data collection

Interviews lasted 45-60 minutes, following a moderator's guide (Table 2), with questions based on SDM themes found in literature and on the clinical experience of the lead author (RK). The interview guide was adjusted slightly throughout the study as different themes emerged. Three co-authors (JS, FF, and BA) conducted interviews

while the lead author (RK) took field notes. Discussions were audio-taped, professionally transcribed, and reviewed for accuracy by the study team. Transcriptions were entered into Open Code[®] [26] a qualitative data analysis software program that facilitates a Grounded Theory analysis.

Data analysis

The Grounded Theory method characterizes the conditions, context, contingencies, and consequences of a particular phenomenon [27,28] to produce an in-depth, nuanced analysis. Analysis involved reviewing transcripts to identify key data segments that provided insights into the phenomenon of SDM. We assigned the segments codes capturing the main idea of the data segment, then sorted and grouped the codes into larger categories/themes. We identified properties of and relationships between codes, sub-categories, and themes to generate theory that was "grounded" in the data.

Throughout our interview process, data analysis continued in order to test and explore emerging concepts in subsequent interviews. To ensure accuracy, one co-author (FF) coded all interviews while another (JS) audited the codes. The research team discussed and mutually agreed upon all code groupings, sub-categories, relationships, and concepts. We conducted interviews until new ideas and concepts ceased to emerge. To analyze the validity of emerging conceptual relationships, we employed Strauss and Corbin's criteria for evaluating Grounded Theory analyses [28].

Results

The definition of SDM varied among physicians. Some described it as occurring between clinicians: "I think that my conception of [SDM] is doctors or other clinical people standing side by side, shoulder to shoulder, making decisions in trying to do what is best for the patient as it pertains to the treatment of low back pain." Others viewed SDM in the context of the patient-physician relationship: "For elective cases, we try to get the patient as much information regarding treatment options and surgical options and help them work through conclusions to come up with a plan." After providing our definition of SDM as centering

Interviewee Number	Gender	Board Certified	Clinical Specialty	Years of Specialty Practice	Practice Type	Practice
1	Male	Yes	Orthopedics	4	Academic	Syracuse,
2	Male	Yes	Orthopedics	7	Academic	Syracuse,
3	Male	Yes	Neurosurgery	6	Group Practice	Cooperstown,
4	Male	Yes	Neurosurgery	10	Group Practice	Cooperstown,
5	Male	Yes	Neurosurgery	31	Group Practice	Cooperstown,
6	Male	Yes	Neurosurgery	8	Academic	Albany,
7	Male	Yes	Neurosurgery	17	Academic	Albany,
8	Male	Yes	Neurosurgery	27	Academic	Albany,
9	Male	Yes	Orthopedics	26	Academic	Albany,
10	Male	Yes	Neurosurgery	14	Private Practice	Rapid
11	Male	Yes	Neurosurgery	16	Private Practice	Rapid
12	Male	Yes	Neurosurgery	20	Private Practice	Rapid
13	Male	Yes	Neurosurgery	2	Academic	Albany,

Table 1: Characteristics of the Qualitative Interview Participants.

#	Interview Question	Notes
1	Could you describe a typical clinical workday?	
2	What is your primary focus on clinical workdays?	
3	Could you walk me through a recent discussion you had with a patient on treating their lower back pain?	
4	What do you know about the term "Shared Decision Making" [what does this mean to you]?	
5	Could you describe a situation where you felt using Shared Decision Making led to a positive outcome?	
6	Could you describe a situation where using Shared Decision Making did NOT lead to a positive outcome?	

Table 2: Qualitative Interview Moderator's Guide.

on the patient-physician relationship, we asked physicians about the factors that inhibit or facilitate it. Identified factors were grouped into the following themes (Figure 1): patient characteristics, physician attributes, patient/physician relationship, patient-care environment, and financial considerations.

Theme 1: Patient characteristics

Physicians highlighted the importance of patients' medical conditions, expectations, and ages in the process of SDM.

Patient conditions: Physicians considered educating patients about their condition and treatment options a key to successful SDM. However, an impediment to the process is difficulties in understanding complicated conditions and interventions, especially among patients with multiple conditions, facing several treatment options with the same risk/benefit ratio. One physician affirmed, "When you get into the real complex stuff where there are big pros and big cons to anything you propose, that is one of the largest challenges."

Patient expectations: Physicians described scenarios whereby patients' unrealistic recovery expectations inhibited SDM. For example, many LBP patients expect to have surgery even when it is not the best option. As one physician explained, "People come in with expectations that are extreme and out of left field and I am not going to be able to meet some of their expectations because of that." Interviewees also cited patients seeking pain medications, as opposed to the best treatment option, as particularly hindering SDM.

Patient age: Age was identified as an important factor: older patients expect physicians to make autonomous decisions, while younger patients prefer to negotiate the decision-making process. One interviewee stated, "For some patients my role is essentially counseling them [and providing] information and they really come up with their own decision. [For] other patients, it's much more paternalistic." The

ideal clinical scenario for SDM, according to interviewees, is younger patients with simple medical problems and clear treatment options.

Theme 2: Physician characteristics

Physician characteristics, including training and experience, were also discussed. Interviewees explained that established training and experience in patient counseling and education facilitated SDM. One physician stated, "I am very interested in this topic of shared decision-making because I have been taught [this] in medical school and I try to practice [it]." Peer norms can be equally influential.

Physicians' ages can also impact engagement in SDM. Older doctors tend to make decisions for patients, while younger doctors will negotiate treatments. One physician stated, "I think my generation, and maybe even younger, tend to be more geared toward [SDM], maybe even have a preference for that." SDM is also influenced by physician specialty. For example, surgeons are more likely to recommend surgery over non-surgical interventions. One physician acknowledged, "I'm a surgeon, I prefer to operate." Younger physicians with training and experience in patient education and little bias towards treatment options are most likely to engage in effective SDM.

Theme 3: Patient-physician relationship

Patient-physician relationships appear to be the most influential factor in SDM. Interviewees considered honesty about the likelihood of success for different treatments as key to SDM. SDM is effective when patients reciprocate their honesty and understanding: "It's very easy when I am on the same page as the patient. . ." Ulterior motives, including the pursuit of pain medication, are detrimental to this rapport: "They have secondary needs and they're there for the wrong reasons, and they don't want to get better." Interviewees also perceived the patient's medical history as influencing SDM. One stated that "if communication gets difficult, it is usually when they have tried a

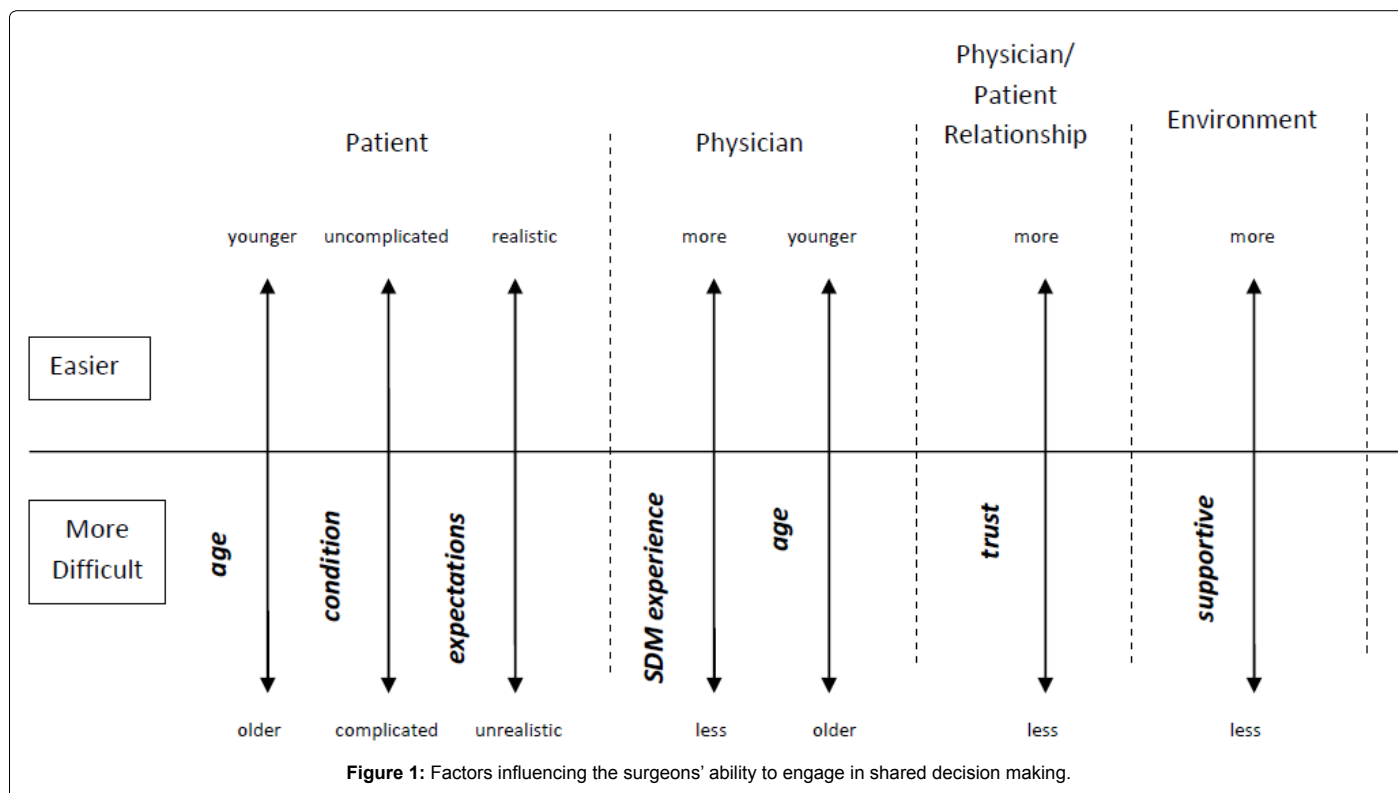


Figure 1: Factors influencing the surgeons' ability to engage in shared decision making.

million different things but surgery is not an option and then they are extraordinarily frustrated."

Theme 4: The patient-care environment

Physicians considered the patient-care environment as influencing SDM, specifically the time constraints related to patient census/scheduling and the complexity of cases/procedures. The fast pace of surgical care is illustrated by one interviewee's statement that "on any typical workday, there is an extensive to-do list and . . . my priority is to get through as much of the 'to-do' list as I can." Effective SDM requires educating patients on their condition, presenting viable treatment options, assessing their understanding of these options, and negotiating the best treatment option. When this is cut short due to time constraints, SDM suffers. As one physician explained, "It becomes harder if you can't educate the patient about certain treatment options because you don't have time." The time required varies according to the patient's condition, complexity of treatment options, and the ability of the patient to understand this information. Thus, patient-care environments characterized by flexibility in time spent with patients are ideal for effective SDM.

Theme 5: Financial considerations

The interviewees considered SDM to include discussion of treatment costs. When the best treatment option is not affordable based on insurance coverage, patients and physicians experience frustration. Interviewees expressed dissatisfaction about how insurance companies determine available treatments: "More and more we are being steered against our will by the insurance company and sometimes you have to roll over and let them steer the ship."

Discussion

We investigated physicians' perceptions of the process of SDM during LBP treatment. SDM was a patient-physician affair to some interviewees while others included interprofessional coordination, which the literature also supports. Similarly, such differences are evident in the literature. To Whitney et al. [28], SDM is appropriate when multiple treatments and patients' desire to participate in selection coexist. McNutt [29] considers "shared decision" a misnomer, since patients, not physicians, must decide. To Charles et al, [30] physicians and patients continually interact and negotiate [31,32]. Kon [32] sees a continuum: (1) patient autonomy, (2) physician-recommended decision, (3) equal-partners decision-making, (4) patient's tacit agreement/non-dissent or (5) physician autonomy. Légaré et al. [33] definition includes inter professional collaboration [34,35].

Patient characteristics

Interviewees cited multimorbidity, unrealistic expectations, hidden motives, and older age as patient-related barriers. Reviews support that patients' attributes/illnesses impact SDM [36,37]. Physicians should avoid labeling patients as "difficult" and, instead, should open respectful dialogue [38]. Focus groups among multimorbid veterans found that "problematic interactions with providers" hindered SDM [39]. Specialists frequently ignored patients' perspectives [39]. In multimorbidity, patient-physician concordance decreases with illness severity [40]. Physicians devalue symptoms multimorbid patients prioritize [40,41] and patient-physician disagreement on adherence ratings is high [42]. When multiple, equally-burdensome illnesses coexist, research should clarify SDM guidelines [43].

Patients might have higher [44-46] or lower [47] recovery expectations than physicians. High hopes improve outcomes [48-

51], while "unmet" expectations lower satisfaction and adherence [52,53]. Physicians should openly discuss "unrealistic" expectations [54,55], distinguishing them from recovery hopes [56]. Vague patient expectations crystallize and become "manageable" via dialogue [57-61]. SDM suffers when patients have ulterior motives, e.g., abusing prescription medications, but skillful physician interviewing uncovers these [62]. Tools for assessing expectations [61,63,64] include surveys [65,66] and "expectations" sections [67,68] in informed consent documents. Guidelines protect physicians from being "pressured" into non-evidence-based tests/prescriptions/referrals [57,69-71]. Decision-aids educate patients about treatments [72].

Interviewees see older patients as deferring to physician-selected treatments while younger ones prefer SDM. This generational difference is supported in literature [73-75,76]. Gender and racial/ethnic differences also exist [71,74]. Trust in physicians increases patient engagement and involvement in decisions about their care [77].

Physician characteristics

Interviewees considered SDM-related experience the overriding provider-level factor, followed by age and specialty. Older practitioners are more paternalistic, younger physicians more participatory. Interviewees perceived "specialty biases" in LBP treatment options. Towle and Godolphin's [77] provider-level competencies and the OPTION scale's [78-81] SDM-facilitating behaviors are noteworthy. SDM strategies in breast-cancer treatment include 'repetition' to reinforce new information, pausing to limit options during first consultations, then re-stating options [82]. Continuing medical education could include such skills [83,84].

Age-related attitudes reflect generational differences. Patient-physician cultural congruence impacts SDM [85]. Stigmatizing patients as "difficult" hinders SDM [86]. Positive physician "motivation" facilitates SDM [36,37]. "Strategic maneuvering" [87] promoting physician-favored treatments occurs in the way options are described and the order in which they are presented [88]. Further research on "strategic maneuvering" is needed.

Patient-physician relationship

Some consider "partnership with patients" a physician competency [78]. It impacts SDM with diabetes [89] and cancer patients [90,91]. One qualitative study saw the patient-physician pair as "a single dyad" [80,92,93], while another concluded SDM was dynamic, with patients and physicians continually influencing one another [94]. Individual perspectives ignore patient-physician relationship nuances [93]. Patient-physician agreement on diagnosis/treatment plans improves LBP outcomes [95,96]. Patients who disagree with physicians catastrophize more about pain [97]. Researchers should test Bordin's [97] "working alliance" in patient-physician contexts [98,99]. Some contend SDM partners patients with interprofessional teams [34,35,100] and/or health systems [101].

Healthcare environment

Reviews find "time constraints" a key barrier [36,37]. System redesign could reward SDM by reimbursing physicians for time spent educating patients [101]. Healthcare's "value versus volume" conflict constricts time for SDM.

Financial considerations

Healthcare quality/cost variability raises suspicions of underlying financial incentives [102]. Among Medicare patients in >300 hospital regions, surgeries for LBP varied by a factor of six [103,104].

Patient decision-aids reduce selection of expensive, invasive surgical treatments [20,72]. Patient activation lowers costs [105]. Enhanced decision support, e.g., health coaching, reduces admissions and preference-sensitive surgeries [106]. Patients, nevertheless, object to overzealous focus on costs, preferring "best care," notwithstanding expense. Transformative redesign of patient benefits and provider reimbursement could shift financial incentives in favor of SDM [101,104].

Strengths and limitations

The peer networks of the lead author (RK) and co-author (BA) provided the sample. Convenience sampling limited the study. Some potential participants never freed up clinic time for interviews. Interviewees were male, board-certified specialist surgeons. Spine surgeons in these settings are typically >95% male. The study's simplicity and capture of practicing physicians' perceptions were strengths. Also, the inter-disciplinary study team enriched analysis.

Conclusions

In a qualitative study of SDM, physician-interviewees listed multimorbidity, unrealistic expectations, hidden motives, and older age as patient-related barriers. Physician-related facilitators were SDM training/experience and younger age. Specialty-focused treatment biases and time constraints were barriers. Affordability by patients and coverage by payers limited treatment options. Finally, patient-physician relationships were crucially important to SDM.

Acknowledgements

We greatly appreciate the generosity of the physicians who participated in our qualitative interviews. We thank Ms. Terri Lorette and Ms. Shannon Crisman for their assistance with the administrative management of this project. The comments by Ms. Diana Birdsall on an earlier draft of this paper were very helpful to the authors.

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