"Keep on Truckin'" or "It's Got You in This Little Vacuum": Race-Based Perceptions in Decision-Making for Total Knee Arthroplasty

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ABSTRACT. ***Objective.*** Ethnic variation in the utilization of total knee arthroplasty (TKA) has been well documented, with African Americans showing significantly lower utilization rates. These differences are not explained by the prevalence or severity of knee osteoarthritis (OA). Patient preferences may contribute to differences in utilization since TKA is an elective surgery. We conducted a qualitative analysis of decision-making factors influencing ethnic preferences for TKA in patients with knee OA.

Methods. Six focus group discussions were conducted with participants being divided according to race: 2 African American groups, 2 Hispanic groups, and 2 Caucasian groups. Participants were all patients with knee OA attending the same treatment facility. A total of 37 patients participated, 14 male and 23 female. Group discussions were led by a race-concordant facilitator. A grounded theory approach was used to analyze verbatim transcripts of the discussions.

Results. Thirty distinct categories of information emerged in the analysis of the data. Four of these categories showed variation among ethnic groups and included explanations of illness, changes in lifestyle, trust and skepticism, and paying for surgery.

Conclusion. Patient attitudes and beliefs about TKA vary among ethnic groups. Differences in explanations of illness, changes in lifestyle, trust and skepticism, and paying for surgery are topics for discussion in the medical encounter. There is a need for open doctor-patient communication around individual experiences and beliefs in an effort to enhance decision-making for TKA. (First Release April 1 2007; J Rheumatol 2007;34:1069–75)

Key Indexing Terms:
TOTAL KNEE ARTHROPLASTY RACE ETHNICITY HEALTH DISPARITY

It is estimated that 17 million people in the United States have knee osteoarthritis (OA). The prevalence of knee OA is 44% for people 80 years of age and older[1]. While medical treatment can alleviate symptoms, there is no cure for the disease. Total knee arthroplasty (TKA) is an option for patients whose pain and disability are unresponsive to medical treatment. Through TKA, patients can experience relief from pain and functional improvement, with 92% to 98% success for prosthesis longevity of 10 years or more[2]. Since knee OA is not a life-threatening disease, TKA is an elective option for patients, providing improvements to their quality of life.

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While the prevalence of knee OA is similar among ethnic groups, TKA rates differ significantly. Caucasian women are twice as likely to undergo TKA compared to African American women, and Caucasian men are as much as 5 times more likely to have TKA compared to African American men[3-5]. TKA rates among Hispanics are higher than among African Americans, but lower than TKA rates among Caucasians[3]. Arthritis has been reported as the most common complaint among the Hispanic elderly[6]. Of relevance, the ethnic variation in utilization remains after controlling for clinical severity, insurance status, and economic factors[3-5]. Reported findings not only underscore ethnic differences in the use of TKA as a treatment option for knee OA, but also underscore the ways in which persons with knee OA experience illness differently. For example, African American patients with knee OA experience increased disability, and different pain perception, compared to Caucasian patients[7-10]. The few studies that have examined ethnic variation in preferences for TKA suggest that beliefs and attitudes are important mediators; these include perceptions of efficacy, previous experiences related to TKA in others, and differences in coping mechanisms[11-15].

Differences among ethnic groups in perceptions about illness can be barriers to effective communication and partnership-building between physicians and patients[16,17]. Ashton, *et*

al suggest differences in perception can affect health outcomes through affective responses (trust, satisfaction, empathy) and behavioral responses of the patient (use of health and disease self-management techniques by the patient, adherence to clinical and therapeutic recommendation, use of complementary and alternative medicine therapies, and partnership-building)[18]. Figaro, *et al*, using the Theory of Reasoned Action as a foundation, suggest physicians need to pay greater attention to the beliefs and attitudes of patients in an effort to improve both preoperative evaluation and outcomes of TKA[12]. According to the Theory of Reasoned Action, individually-held beliefs and attitudes influence intentions, which lead to actual behavior[19,20].

Since there are variations in the use of TKA that cannot be explained by the prevalence of knee OA, and because TKA is an elective surgery in which patient preferences may play a major role in differences in utilization, it is important to understand the ways in which racial groups understand and experience knee OA and the ways in which these understandings and experiences are negotiated in the medical encounter. We conducted a qualitative study to discern these decision-making factors. Our study is part of a multiphase project that examines the connections between ethnicity, attitudes, or beliefs, and communication during the medical interaction. We conducted focus group discussions with African American, Hispanic, and Caucasian patients with OA to carefully analyze their experiences, knowledge, beliefs, and attitudes regarding their knee arthritis and TKA. It is believed that differing perceptions may influence decision-making about TKA in patients with OA. While beliefs and attitudes are reported by individual ethnic groups, few studies have integrated multiple ethnic groups into a single study design[8,9,12-14,16]. Chang, *et al*, as an example, report comparisons of patient concerns among African American and Caucasian participants[16]. We build on their findings by including a third ethnic group. Four themes were found to differ among ethnic groups: explanations of cause, changes in lifestyle, trust and skepticism, and paying for surgery.

MATERIALS AND METHODS

We conducted 6 focus group discussions including patients with knee OA from diverse ethnic backgrounds. Participants were identified from a single outpatient healthcare organization in the Houston area. Inclusion criteria were: a physician diagnosis of knee OA; no previous knee replacement; self-reported ethnic background as African American non-Hispanic, Hispanic, or White non-Hispanic; age 55 to 80 years; and English language proficiency. We recruited the focus group participants from patients who had originally participated in a survey related to preferences for TKA[11]. Both studies had the same inclusion criteria. Inclusion for participants in the focus group discussions was stratified by race until sufficient participants agreed to participate in 2 groups for each of the 3 ethnic groups: African American, Hispanic, and Caucasian. There were a total of 37 patient participants, 14 male and 23 female. Mean age of participants was 64 years, with an estimated disease duration at 7 years (based on self-report of duration of pain). Ten of our participants had a bachelor's or higher university degree, 16 had attended some college courses, 5 had attended trade or technical school, and 6 had a high school education or less.

Each of the group discussions lasted approximately 2 h and was conducted with the assistance of a race-concordant facilitator. Discussion guides were developed by the investigators, relying on their personal expertise and prior research in health-decision making, and a literature review of ethnic disparities in TKA, summarized in our previous publication[11]. Table 1 lists the focus group questions and probes. A consistent discussion protocol was used across all groups. Group discussions were transcribed verbatim, resulting in 11,646 lines of text. Thematic analysis was conducted following a grounded theory approach, with both repeated individual readings and more than 30 h of discussion among the authors. Emerging themes were identified and refined by group consensus. The data were organized with Atlas.ti™, a software application designed to support qualitative analysis, which organizes codes and quotations and generates frequencies and summaries[21]. Atlas.ti is widely used in qualitative research and has been utilized before by investigators in our institutions[16,22-24]. While all analysis of data was conducted by the authors, the software was an important tool used to store data once coded, and to compare codes across ethnic groups. The quotations associated with the themes that varied among ethnic groups were identified and analyzed in greater detail.

RESULTS

Nearly 30 categories of information emerged in the analysis of verbatim transcripts of focus group discussions. Table 2 lists the categories of information that emerged. Since the goal of the study was to consider attitudes and beliefs of individual ethnic groups, the ethnic identity of the participants was not blinded from the authors in the analysis of the data. This choice is consistent with the theoretical foundations of naturalistic inquiry[25]. The categories that emerged were carefully

Table 1. Focus group questions and probes.

Current Problems with Knee Arthritis
What bothers you the most about the arthritis in your knee?
Probes: Emotional and social, as well as physical problems?
Awareness of Surgery as a Treatment Option
What do you know about knee replacement surgery as a treatment for arthritis?
Probes: Where did you get the information?
Decision-Making Factors
Have you ever thought about having knee replacement surgery as a treatment for arthritis?
Probes: If not, why?
Has anyone suggested that you consider having this surgery?
Probes: Doctors (primary care, specialist, surgeon), family, friends?
Do you know of anyone who has had this surgery?
Probes: If so, how has talking with that person influenced you?
What concerns or needs would keep you from having knee surgery if your doctor recommended it?
Probes: Money concerns or family concerns?
Expectations
What fears or concerns do you have about what may happen with a knee replacement surgery?
Probes: Any fears or concerns?
If you were to decide to have knee surgery how do you expect your knee condition would change after the surgery?
Probes: Expectations of good outcomes? Expectations of bad outcomes?
If you were to decide to have knee surgery how do you expect your life would change after the surgery?
Probes: Expectations of good outcomes? Expectations of bad outcomes?

Table 2. Categories of information from group discussions.

Accelerated Retirement
Bad Experiences with Knee OA — Self and Other
Body Anomaly
Changes in Lifestyle/Quality of Life
Comparisons of Severity
Complementary Regimens and Other Treatment Options
Concerns About TKA
Conflict in Provider-Patient Interaction
Descriptions of Pain
Emotional Responses to Knee OA
Expectations for Disease Progression
Explanations of Cause
Fears Associated with TKA
Good Experiences with Knee OA — Self and Other
Medications
Mobility
Multiple Medical Conditions
New Technology
Paying for Surgery
Readiness for TKA
Religious Beliefs
Self-Efficacy
Social Support
Source of Information on Knee OA/TKA
Support from Others
Surgery as a Last Resort
Treatment Efficacy
Trust and Skepticism
Use of Devices

scrutinized through group discussion among the authors. Four categories provided distinct trends among the 3 ethnic groups that participated. Each of these categories — explanations of cause, changes in lifestyle, trust and skepticism, and willingness to pay — is discussed separately.

Explanations of cause. The most striking difference among the ethnic groups, with respect to personal explanations of the cause of their illness, was the way in which African American participants described internal causes, or causes attributed to the body. In contrast, Hispanic and Caucasian participants described external causes, or blamed the medical profession for not fully understanding knee OA. The African American participants tended to describe conditions of the body such as aging or descriptions of the anatomy such as "bone on bone." In other words, African Americans attributed knee OA to conditions where the body fails to perform adequately. For example:

African American Patient 9: "I've seen the x-rays of my knees and I don't have the cartilage in between — bone on bone. But you know, the doctor told me it was just getting old. He was saying it was just a stage of getting old. He didn't say arthritis but I was looking at the x-rays and don't see nothing, you know, in between those bones. So I have to walk on the pain. Feel like I'm walking on a bone."

African American Patient 12: "I get a pain in my hip and in the lower part of my back as well from improperly walking. That knee just — snap, you know, whatever — that bone to bone, you can hear that."

African American Patient 6: "But I know I have bone to bone just about and I don't deal in pain. I get off my feet —"

Hispanic and Caucasian participants were less willing to base their explanations of illness or disability on the natural process of aging or deterioration. Instead, they were more likely to attribute the cause of their knee OA to an accident or injury from the past:

Hispanic Patient 5: "I think it's attributed to a fall that I experienced about 4 years ago. I'm a firefighter and I broke my ankle — ever since then, I've had trouble with my knee and a little bit of my hip, my left hip."

Hispanic Patient 3: "Yeah, I had my arthritis, I've had it ever since I was in the service. You know, as a rule, arthritis is caused from an injury. I crushed my leg in a tank when I was in the service and I've had this since I was about 25, and it's been real bad for about the last 15 or 20 years. So it seems like I've had it all my life."

Caucasians were the only ethnic group to express frustration with a current lack of medical knowledge regarding knee OA.

Caucasian Patient 6: "According to my research the osteoarthritis is a degenerative disease of the cartilage. Disappearing of the body, by definition. And that is not caused by an accident, but usually discovered as the result of an accident when they get in there to look. But, and I am not able to find out, I don't think they know yet, what actually causes the deterioration of the cartilage. I kept telling my doctor, this must be the result of a football injury or something, he kept saying, no, no, no. And he never did tell me why. Because I don't think the doctors know why. But he said, he says it just happened."

Caucasian Patient 1: "I just can't understand why we can go to the moon but the only way we can correct a crippling arthritis in the knee is a knee replacement. You know, there has to be something else. I'd compare knee replacements to tankless water heaters meaning that's all they know here in United States is to replace your knees. And it's like if you want to build a home you check into the best, you get first, second, and third opinions. Well, a conventional hot water heater, there's more than one kind of hot water heater. You know, you can get tankless or you can get a tank heater. I compare that to my knees. There's bound to be something else they can do other than a knee replacement.... It's just something about the medical field, they got tunnel vision, you know."

Caucasian Patient 3: "I see these 70, 80, and 90 year old people still jogging and running in marathons. So when they tell me I've seen too many birthday candles and that's why my knees are shot, that's a cop out — blaming it on age."

Changes in lifestyle. Knee OA was described by African American and Hispanic participants as being more debilitating compared to the perception of the Caucasian respondents. African American subjects described their arthritis as a condition where personal freedoms become limited, described by one participant as "being in a vacuum." These are examples from African American participants in our study:

African American Patient 2: "I noticed it when I was working — I don't work now — getting down, I drive a truck, get out and open that back door and try to get back up — pain. You know, pain. And then like at night sometimes you can just feel the pain in your knees just throbbing, when you're laying in bed. So that's one of the problems I have. It kind of keeps you in like a vacuum because certain things you can't do, you know? Some place you want to go you can't go. You know what I'm saying? So it's almost like it's got you in this little vacuum."

African American Patient 11: "I would like to — I'd probably go ahead and open up my own shop and do things that I want to do. I could go up and down the stairs at will. I could travel and not have to be concerned about waiting for a wheelchair or a ride at the airport and not having to be so concerned about the bus and the seating being so close. I probably would even go back to work and from work I could go on doing what I want to do for the duration of my life. I may even go back and teach another couple of years."

Hispanic respondents also talked about the way in which their knee OA would create limits in how they choose to spend time.

Hispanic Patient 6: "The way I see it for myself is that — I'm retired, you know. I don't do nothing. I don't have to work; I don't have to do nothing. All I have to do is see how I want to place my 24 hours, you know. Go here, go there, take it easy, go visit somebody or something but when the knee don't work on me, I don't get to do what I want."

Caucasian patients, however, talked about limits to their lifestyle but were more likely to also describe ways in which they overcome those limits.

Caucasian Patient 7: "I can do everything I want to do but I pay a price afterwards. I play tennis, used to play it up to a couple of months ago 3 or 4 times a week and I was walking 4 miles 3 times a week but the doctor told me it wasn't really a good idea to walk because the pounding. So now I am doing Nordic track and I bike and walk once a week just cause I like to get out."

Caucasian Patient 4: "I had it so bad that I couldn't straighten my leg and every time I'd sit down and get up, it sounds like Rice Krispies. You know, 'snap, crackle, and pop' and it started in one and then it got into my other knee cause I was favoring my good leg cause my bad leg was so bad.... I am an outdoor type person, we have a farm and I am not going to sit in the chair or on the couch and be a couch potato, you know. It's hard to get me down. I have to hold the wall to put on my clothes because I lose my balance, but I can live with that. At least I don't have cancer and I am not dying.... But I found out just more exercise and don't baby myself and just forget about it, mind over matter and just keep on truckin'."

Caucasian Patient 10: "I am getting ready to go to Amsterdam in a few weeks, I don't know how I am going make it, but I'm going and the thing that bothers me most is sitting, I cannot sit. And so we travel by car often, and we have a sleeping thing in the back for me and I stretch out and I ride all the way up and back stretched out because that's the only way I can do it. But this trip to Amsterdam, I don't know how I'm going to make it, but I'm just going."

These differences among the ethnic groups in our study could be influenced by differing levels of self-efficacy. While measurements of self-efficacy in the treatment and management of arthritis are not reported for Hispanic populations, Iren, *et al* have reported that increased self-efficacy has the potential to improve health outcomes in African Americans with rheumatoid arthritis[26].

Trust and skepticism. In our previous study of ethnic variations in preferences for TKA, trust in the physician appeared to play an important role in the initial considerations about surgery[11]. Trust was a concept that was discussed by our Hispanic participants, as in the following examples:

Hispanic Patient 7: "The most important thing is to trust the doctor because if I don't trust the doctor, then I wouldn't operate. No, no way."

Hispanic Patient 4: "The way they [physicians] talk to me, they give me confidence. After you see a doctor couple of times, 2 or 3 times, you know, sometime you go to see a doctor, they talk to you maybe a minute then you go they get a bunch of people one after the other one. You wait like 20 minutes or one hour, they come and talk to you 5 minutes and they leave. But I have a doctor for my knee — he's Hispanic — he takes time to talk to you and to explain, and I like the way he helped me. So, I trust him."

Our data suggest there may also be concerns among Hispanic patients that members of the healthcare system have loyalties to the system when errors occur. One participant used the term "underground" system.

Hispanic Patient 2: "It would be nice if it was possible, but I know sometimes people have to protect the identity of other people, like when you go and get a painter to paint the house, you say, 'Hey, Mr. Painter, who else have you painted their houses? Give me their name and I want to talk to them,' see how they came out on that and then get feedback. But I don't know if they can do that in the medical profession, but that would be nice. No, the doctors I believe you can ask'em any questions, they'll tell you — they'll answer your questions. You certainly got to be like a doctor yourself, as far as questions go. Any mistake they make, they're underground. Those doctors bury the mistakes."

In contrast, African American and Caucasian participants were more likely to have trust based on the reputation of the physician or the reputation of the facility where the physician is affiliated.

African American Patient 3: I changed to Dr. X. because I know so many people that just had such great success there. One of my friends worked for the doctor who is over the whole hospital. And he was the one who recommended Dr. S. to my sister. He said, 'He is the best.'"

African American Patient 15: "I think you just want to have a good, a good recommendation of a good doctor and a good facility to go to and a recommended good follow-on care."

African American Patient 2: "I'd let the doctor make the decisions. I'd like to think if I pick a good enough doctor he is going to do the right stuff. And you gotta have faith in your doctor."

This trend for the reputation of the organization with whom the physician is affiliated becomes more apparent with comments from Caucasian participants.

Caucasian Patient 3: "I do know that my concern about knee replacement is that I'm involved with an HMO. With an HMO the qualification of the physician is a concern to me, to be blunt about it. I know every operation is not gonna be perfect."

The trend that emerged relating to trust among African American respondents was consistent with Corbie-Smith, *et al*, who found a lack of trust in the medical community and concerns about ethical misconduct in both research and non-research treatment settings[27]. Skepticism from our African American participants was most likely to be associated with the prosthetic device.

African American Patient 1: "But I'm under the impression that if you go and have this type of surgery, this knee replacement surgery, it's just like any other manufacturer that manufactures parts, I'm quite sure they have defective parts."

African American Patient 10: "I'm kind of skeptical about a knee replacement. It may work for some people but some people it's not going to work for."

Paying for surgery. One final area where differing themes among ethnic groups were identified is the personal economic effect of having TKA. Each of the ethnic groups spoke of financial concerns in a different way, but African Americans were likely to bring up this theme more often.

African American Patient 4: "I have no concerns. I would have it done. I'll spend it. If I lose $12,000 doing it, just let my check come in Monday and we live off of that."

African American Patient 7: "You know, whatever it takes, you know, draw it out of my 401(k), something. I'd do something. I wouldn't let money stop me."

African American Patient 5: "As I stated earlier, I would borrow — if I didn't have the money and the pain was bad enough, I would have it done, I'd get the money."

African American Patient 8: "I would – even if I didn't have the funds, I'd borrow it, I'd make a deal with somebody or something to have that done to get out of bed. My tolerance level is low for pain."

While African American participants spoke of ways to borrow money to pay for the procedure, Caucasian participants spoke only of out-of-pocket expenses associated with having a highly regarded surgeon perform the surgery.

Caucasian Patient 5: "I really don't care unless when it comes time that I do want a knee replacement you know, maybe somebody told me that Dr. Joe Blow across the street is real good and he charges, you know I might want to pay somebody, you know, I don't know. I worry about that when I, like you said, when I get to the point where, 'Oh, honey, I just got to have it done.'"

Caucasian Patient 9: "I may want to go to some doctor over here that does the best knee replacement in the country. I might want to go to him and pay him."

The Hispanic participants were more likely to speak of having the operation and then paying for it over time, after the fact.

Hispanic Patient 1: "You might say this about, you know, living here in the United States. My brother is going through a tough time right now that he had insurance when he had surgery, back surgery — heart surgery — and they told him that the insurance was not in force, you know, that it had lapsed when he had the surgery. But, it seems like bills would come, bills were coming, you know, to him that he owes. He says,

'Well, how am I going to pay it?' And I'd say that somehow it's going to get paid. Right now, he's disabled. They're not going to put him in jail or anything. It will get paid somehow. I have heard that a lot of people owe so much money to the hospitals and the doctors and you have to pay a minimum, you know, every time you can. If they see that you're paying on it, they will not, you know, there will be no penalties for you, if you're trying to do whatever you can."

These differences complement the findings of Byrne, *et al*, whose empirical work has shown differences in willingness to pay for health improvements among ethnic minorities in the general public, but not in patients with knee OA[28,29].

DISCUSSION

There are some generalizations that can be made from the discussions of the participants in this study. Knee OA is experienced differently by people of different ethnic groups, and variations exist in the perception of the cause of knee OA. Trust may be an important element for Hispanic patients considering TKA as a treatment option. Personal economic situations are experienced differently, but do not seem to be a constraining factor on the choice to undergo TKA. These generalizations represent trends that emerged from nearly 11 hours of focus group discussions by African American, Hispanic, and Caucasian participants. The findings presented are important to consider when designing studies on ethnic disparities in the use of health services, particularly elective orthopedic and other surgical procedures.

The Theory of Reasoned Action has been used as a tool to understand influences on choices to undergo procedures such as TKA[12]. The theory underscores the need to understand individually-held attitudes and beliefs since they are a precursor to choices related to a health behavior. Chang, *et al* show how different racial groups focus on different concerns when considering TKA, suggesting the differences may play a role in the disparity in TKA use[16]. Our study provides a comparison of the discussions of 3 different ethnic groups. Using the same interview protocol across discussion groups allowed for an in-depth comparison of the statements made by African American, Hispanic, and Caucasian participants.

As is the case for a qualitative study, our findings raise additional questions that will need to be addressed in future work on perceptions of ethnic groups in decision-making for TKA. As an example, while it seems logical that an ethnic group with a perception of greater disability from a chronic condition would be the group with the highest utilization rates of effective remedies, the opposite is true for African American patients with knee OA[3]. Additional research, including empirical analyses, will be needed as a result of our study. It is quite intuitive, however, that at the decision-making level the motivation to undergo TKA for knee OA may be different for patients who believe that OA is a natural part of the aging process compared with patients who believe TKA will repair damage from a previous injury.

Differences in the discussion among our participants are in agreement with other studies that examine perceptions of patients with arthritis across ethnic groups. Studies of OA that compare African Americans to Caucasians have shown how the 2 groups describe the quality of their pain differently and have differing perceptions of traditional and contemporary treatments for arthritis[10,14]. Specific to African Americans, Figaro, *et al* have explored explanations of the cause of knee OA and report similar themes of aging or exposure to cold as the description given by many participants for the cause of their knee OA[12]. Regarding the changes in lifestyle, our African American participants found knee OA to be more debilitating than our Caucasian participants.

Paying for surgery is an area where we believe there is a need for continued research and analysis. Our findings indicate a general willingness to pay for the procedure, with differences among ethnic groups in how the payments may affect them. We have conducted separate quantitative studies of willingness to pay for arthritis improvements, and have found that Caucasians are more likely to be willing to pay for these improvements than African Americans, with Hispanics falling between the 2 groups. While these differences were marked in hypothetical scenario surveys of the public, they were less clear for patients with knee OA[28,29]. Skinner, *et al* suggest low income levels among Hispanic women and African American men contribute to ethnic disparities in arthroplasty rates[3]. However, in a study of African Americans, Figaro, *et al* found that the cost of surgery is not a primary determinant of the decision to undergo TKA[12]. While our data do not make a connection between level of education and an ability to pay, it is important to note that our participants seem to be more educated (10 of 37 had earned a bachelor's degree or higher, 16 had attended some college courses) than what might be expected in the general population.

It is believed that access to care for ethnic minority patients can be improved with increased participation in the provider-patient interaction[17]. Minority patients rate their visits with physicians as less participatory than non-minority patients, and patients seeing physicians of their own race rate their physician decision-making styles as more participatory[17,30]. Since researchers have found that healthcare providers tend to engage in partnership-building more with middle-aged, college-educated, and Caucasian patients than they do with elderly, less educated, and minority patients[31-33], it is important to design and implement interventions tailored for various ethnic populations. Our data suggest differences in perceptions among ethnic groups, and differences among our participants' perceptions and the medical explanations of knee OA and TKA as a treatment option. The variation among ethnic groups in the explanations of cause is significant, since such explanations often drive behavior, and are an important topic for discussion in the medical encounter[17,18]. An understanding

of the differing explanatory models between the provider and the patient may be a precondition for trust, satisfaction, respect for preferences, adherence with recommendations, and self-management behaviors[18]. Data for the next phase of this study will come from audiotaped interaction between physician and patient and will use quantitative methods to examine the influence of ethnicity and communication style on patient expectations, valuation of health status, and treatment preferences.

Interventions that are designed to enhance cross-cultural interaction in healthcare settings should include efforts to increase sensitivity for cultural variations in individually-held perceptions, as well as efforts to increase active patient participation. Increasing physicians' cultural awareness alone, while certainly important, will not take advantage of the benefits of patient-specific perceptions that might be gained through active patient participation in the medical encounter. While current research has identified the importance of patient involvement in health decision-making, much remains to be done in terms of efforts to assist patients and providers with enacting active participation. The data in our report are important for decision-making discussions about TKA among patients from different ethnic groups and their physicians.

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