

CHERP Policy Brief

VOLUME 1, ISSUE 2: DECEMBER 2003

Racial disparities in surgical treatment remain perplexing. This study offers insight into the issue by examining racial disparities in joint replacement surgery for osteoarthritis –typically an elective procedure to reduce symptoms and improve patient function. This research demonstrates that compared to Caucasian veterans, African American veterans are less optimistic about joint replacement surgery and expect more pain and longer hospitalization after the procedure. Additionally, African American veterans are more likely than Caucasian veterans to report that prayer is helpful in managing arthritis. These differences in beliefs may partially explain observed racial differences in the use of joint replacement surgery.

CHERP
CENTER FOR HEALTH EQUITY
RESEARCH AND PROMOTION

VA HSR&D CENTER OF EXCELLENCE

www.cherp.org

Opportunities for Understanding Disparities in Joint Replacement Surgery

Said A. Ibrahim, MD, MPH

*CHERP Core Investigator; Staff Physician, VA Pittsburgh Healthcare System
Assistant Professor of Medicine, University of Pittsburgh School of Medicine*

C. Kent Kwoh, MD

*CHERP Core Investigator; Staff Physician, VA Pittsburgh Healthcare System
Professor of Medicine & Epidemiology, University of Pittsburgh School of Medicine*

Context: Health and health care disparities research is evolving from a discipline concerned with detecting and documenting inappropriate differences in health and health care to a field focused on exploring the underlying reasons for such disparities. Differences in rates of surgical interventions between Caucasians and members of racial and ethnic minority groups represent an area of health care disparities of particular interest. The 2002 Institute of Medicine Report *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care* notes that such differences have been documented across a number of surgical interventions. Even among patients who do not experience insurance barriers in accessing health care, such as those who receive treatment through the Veteran Health Administration (VHA) and Medicare, seemingly inappropriate differences in rates of surgical treatments persist between Caucasians and racial minorities. Understanding the causes of these differences is the first step toward developing interventions to eliminate them.

Background

Despite the similar prevalence of osteoarthritis (OA) across racial and ethnic groups, and the safety and effectiveness of joint replacement surgery (arthroplasty), there is marked racial disparity in utilization of the procedure. Access to care cannot explain these disparities as the majority of surgical candidates are older and have available public health insurance such as Medicare. Although recent studies suggest that rates of joint replacement surgery may vary according to local standards of care, racial differences remain even when regional or location variations are taken into account. Additionally, because orthopedic surgeons do not have known disincentives to perform joint replacement surgery, the provider may only have a small role in these disparities. In the case of arthroplasty –an elective procedure typically performed to reduce symptoms and improve patient function– patient-level factors may partly explain disparities in utilization.

CHERP researchers Said A. Ibrahim, MD, MPH and C. Kent Kwoh, MD have systematically investigated the role of patient-level factors in joint replacement surgery among veterans in a Department of Veterans Affairs-funded study entitled *Ethnic/Cultural Variations in the Management of Osteoarthritis*. The study was conducted between May 1997 and March 2000 at the Louis Stokes VA Medical Center in Cleveland, Ohio.

Methodology

- **Patient Selection:** Interviewers randomly approached patients attending the primary care clinics and screened them for participation. To be eligible to participate, patients had to have had moderate to severe joint pain for more than six months, and be 50 years of age or older. Patients who had already had knee or hip replacement surgery were excluded. Of the 1,351 patients approached, 38 patients declined to participate. Of the remaining patients, 776 agreed to participate and met the study criteria. The first 600 patients were included in the study and, of these, four were excluded due to missing data, leaving 596 patients in the final sample.
- **Data:** The researchers collected demographic information, such as age, educational level, employment status, annual household income, and marital status. Patients self-identified race. Chart and VA clinical computer database abstractions provided information on medications, other illnesses, and health care use. Patients were grouped by level of disease based on symptoms in their most affected joint (knee or hip). Researchers also collected data about quality of life (QOL), depressive symptoms, religiosity, and patients' perceptions regarding osteoarthritis treatment.

Findings

- African American and Caucasian veterans with the same severity of osteoarthritis (as determined by X-ray) were alike in age and additional health problems, including levels of depressive symptoms. African Americans and Caucasians also mirrored each other in terms of their perceptions of arthritis symptoms, degree of pain, and ability to function.
- Although similar numbers of patients in both groups had heard of joint replacement (81% of African Americans vs. 87% of Caucasians), African American patients were less likely than Caucasians to indicate that they had family or friends who had undergone the procedure (52% vs. 78%). Additionally, fewer African Americans reported that they had a “good understanding” of joint replacement therapy (44% vs. 61% of Caucasians).
- A greater percentage of African American patients believed that joint replacement would require more than two weeks of hospitalization (45% vs. 18% of Caucasians). However, the two groups appeared more similar in the belief that recovery would last longer than six months (47% vs. 40% of Caucasians).
- More African American veterans expected “moderate or extreme pain” (62% vs. 42% of Caucasians) and “moderate or extreme difficulty walking” as a consequence of joint replacement (64% vs. 39% of Caucasians).
- African American veterans were more likely than Caucasian veterans to respond “no” when asked whether they would be willing to consider hip or knee replacement surgery if their pain were to worsen and their doctor recommended it. The difference in willingness remained after adjusting for clinical and demographic variables that might influence the decision to undergo surgery, including familiarity with the procedure. However, the difference was eliminated when differences in outcome expectations, such as expected pain and duration of recovery, were considered. This finding suggests a relationship between African Americans' reluctance to undergo joint replacement surgery and their low expectations of clinical success.

Similarities in symptoms and function between African American and Caucasian veterans with the same level of arthritis suggest non-clinical reasons for observed differences in joint replacement utilization.

Negative expectations of joint replacement surgery appeared to explain, in part, a higher likelihood of reluctance to undergo the procedure among African Americans.

Religiosity also appeared to affect African Americans' consideration of joint replacement surgery.

- African American veterans scored higher than Caucasian veterans on the religiosity scale and were more likely to perceive prayer as helpful in the management of their arthritis. As mentioned earlier, African American patients were less likely than Caucasian patients to consider joint replacement surgery; however, this difference was mitigated when perceptions of the helpfulness of prayer were included in the statistical model. These results suggest that perceptions of the helpfulness of prayer play a role in African Americans' consideration to undergo joint replacement surgery.
- These findings were echoed in a separate community-based project. Ibrahim, Kwoh, and colleagues conducted ten focus groups in an inner-city African American community. Older African Americans with chronic knee and hip pain discussed their perceptions of this pain and their preferences for treatment. A number of participants reported that they use prayer or faith for pain management and disease prevention. Many stated that faith could help them to alleviate disease. They believed that only God can heal and that their physicians' healing powers were conferred by God. These results imply that in the African American community, faith and religion may be inextricably linked with arthritis disease prevention, management, and cure. Physicians unaware of these beliefs may be less able to understand and respond to patients' preferences.

Implications

- These studies illustrate both the opportunities and challenges of conducting research aimed at understanding and eliminating disparities in health and health care. The results indicate that patient-level factors in racial differences in utilization of joint arthroplasty reflect *both* a lack of information, regarding for example, the true risks and benefits of the procedure, *and* cultural beliefs and preferences, such as the helpfulness and utilization of faith and prayer in the treatment of arthritis. Accordingly, interventions designed to “close the gap” between Caucasians and African Americans in their willingness to undergo joint replacement need to balance agendas for reducing differences in health care utilization with respect for cultural beliefs and preferences.
- Early steps to address this distinction might be to confirm that African Americans have the same level of success with joint replacement surgery as do Caucasians, and if they do not, to rectify that inequality. If the two groups have similar outcomes, differences in understanding about these outcomes might create opportunities for educational intervention. Differences in preferences for treatment, however, challenge health care providers to increase sensitivity and tolerance.
- Investigation of the patient-provider interaction may also yield additional information about the factors that influence patient decision-making about joint arthroplasty. For example, how do African Americans' beliefs about religion influence the patient-provider interaction? How does communication between the patient and provider influence African American patients' perceptions of the risks of surgery? What other factors, for example, trust of the health care system or the physician, play a role in the patient-provider interaction and the decision to undergo arthroplasty?
- Systematic assessments of particular treatment areas bring us closer to understanding the reasons for disparities in health care. The research here sets out a model for exploring patient-level factors in previously documented health care disparities:
 1. Establish comparability in clinical features.
 2. Assess patient familiarity with and attitudes toward procedure.
 3. Explore, perhaps qualitatively, patient attitudes.
 4. Dig deeper and examine other aspects (e.g., how patients express pain and what they believe about treatment) of the patient-provider encounter for potential avenues of exploration and resolution of disparities.

This issue of the CHERP Policy Brief is based on the following articles: 1) Ibrahim SA, Burant CJ, Mercer MB, Siminoff LA, Kwoh CK. *Older patients' perceptions of quality of chronic knee or hip pain: differences by ethnicity and relationship to clinical variables.* J Gerontol A Biol Sci Med Sci. 2003 May;58(5):M472-7.; 2) Ang DC, Ibrahim SA, Burant CJ, Kwoh CK. *Is there a difference in the perception of symptoms between African Americans and Whites with osteoarthritis?* J Rheumatol. 2003 Jun;30(6):1305-10.; 3) Ibrahim SA, Siminoff LA, Burant CJ, Kwoh CK. *Variation in perceptions of treatment and self-care practices in elderly with osteoarthritis: a comparison between African American and White patients.* Arthritis Rheum. 2001 Aug;45(4):340-5.; 4) Ibrahim SA, Siminoff LA, Burant CJ, Kwoh CK. *Differences in expectations of outcome mediate African American/White patient differences in "willingness" to consider joint replacement.* Arthritis Rheum. 2002 Sep;46(9):2429-35.; 5) Ibrahim SA, Burant CJ, Siminoff LA, Kwoh CK. *Inner-city African American elderly patients' perceptions and expectations of care for chronic knee/hip arthritis: preliminary findings from focus groups.* J Gerontol A Biol Sci Med Sci. 2003 Nov; 6) Ang DC, Ibrahim SA, Burant CJ, Siminoff LA, Kwoh CK. *Ethnic differences in the perception of prayer and consideration of joint arthroplasty.* Med Care. 2002 Jun;40(6):471-6.

Dr. Ibrahim is the recipient of a VA HSR&D Career Development Award and a RWJ Minority Medical Faculty Development Award. This Policy Brief was supported by the Department of Veterans Affairs HSR&D Service.

Published by the Center for Health Equity Research and Promotion (CHERP), a VA HSR&D Center of Excellence. Christine Weeks, Editor. Michael J. Fine, MD, MSc, Director. David A. Asch, MD, MBA, Co-Director. The mission of CHERP is to reduce disparities in health and health care among veterans and other populations.

Policy Briefs contextualize and analyze the work of CHERP researchers. CHERP is a cooperative center consisting of faculty from the VA Pittsburgh Healthcare System, Philadelphia VA Medical Center, the University of Pittsburgh School of Medicine, and the University of Pennsylvania School of Medicine. For more information visit www.cherp.org or contact the editor via email: christine.weeks@med.va.gov.

VA Medical Center, 9 East
3900 Woodland Avenue
Philadelphia, PA 19104-4155

CHERP
CENTER FOR HEALTH EQUITY
RESEARCH AND PROMOTION