How to Make Sure Your Patient with Osteoarthritis Gets the Best Care

Cornelia M. Borkhoff, PhD, *Postdoctoral Research Fellow, Centre for Global Health, University of Ottawa, Ottawa, ON; Canadian Osteoarthritis Research Program, Women's College Hospital, Toronto, ON.*

Gillian A. Hawker, MD, MSc, FRCPC, *Chief of Medicine, Women's College Hospital; F.M. Hill Chair in Academic Women's Medicine, University of Toronto; Arthritis Society of Canada Senior Distinguished Rheumatology Investigator, Toronto, ON.*

Although total joint arthroplasty (TJA) is a highly effective treatment for individuals with moderate to severe osteoarthritis who have not responded to medical therapy, disparities in TJA utilization based on gender, race/ethnicity, and socioeconomic status are well documented. These disparities may be due in part to patient-level factors such as perceptions of, and willingness to consider, TJA. Another possible explanation is that subtle or overt biases may inappropriately influence physicians' treatment recommendations regarding this procedure. Because of the potential for an increased quality of life among TJA recipients, disparity in rates of use of TJA among individuals with an identified need represents inadequate care. In this article, we make recommendations about how to make sure your patient gets the best care.

Key words: *quality of care, osteoarthritis, joint arthroplasty, disparities*

Introduction

Osteoarthritis (OA) is the most common type of arthritis[1] and a leading cause of chronic musculoskeletal pain and disability in older adults.[2] Osteoarthritis affects as many as 30% of people over age 65, with the number of people with arthritis disability expected to double by 2020, largely due to the obesity epidemic and the greying of the baby boomer generation.[3] The large weight-bearing joints (hips and knees) are those most commonly associated with OA pain and disability. Osteoarthritis ranks second as the reason for visiting a primary care physician, with pain being the main symptom that causes patients to seek care.[3] Pain is also the primary reason for undergoing total joint arthroplasty (TJA).[4]

Despite the increased utilization of TJA,[5] there is compelling evidence that some patients receive inadequate OA care based on patient characteristics such as gender, race/ethnicity, and socioeconomic status (SES). Research suggests that TJA is underused among women, Blacks, and Hispanics, and individuals with a low income, relative to men, Whites, and those with higher income, respectively,[6–11] despite the fact that these former groups have a greater prevalence of disabling OA. Disparities in TJA rates are a matter of concern because differences in the use of this highly effective treatment may adversely affect the health of vulnerable population subgroups.[12]

Health care disparities refer to population-specific differences in health care utilization and, hence, quality of care. The aim of this article is to review the evidence of disparities in the quality of OA care and to recommend strategies to address these disparities within your own clinical practice.

Quality Osteoarthritis Care

Treatment of hip and knee OA is focused on pain relief and preserving or improving physical function.[13,14] Current treatment guidelines recommend that optimal care of individuals with OA should combine nonpharmacological interventions (e.g., patient education, exercise, weight loss, assistive devices, and physiotherapy) with pharmacological interventions (e.g., the use of acetaminophen, nonsteroidal anti-inflammatory drugs [NSAIDs], or intra-articular corticosteroids).[15–17] Medical management of OA is mostly symptomatic since none of these conservative therapies, with the possible exception of weight loss, can reverse or halt the progression of joint cartilage destruction and underlying bone changes. Currently, many barriers to optimal treatment exist, including safety concerns and side effects associated with pharmacological interventions as well as societal and patient beliefs that OA is a "natural and inevitable part of aging"[18,19] and that pain medications are "addictive."[20] Additionally, there is general underuse of effective nonpharmacological interventions, such as physical therapy and self-management strategies.[21]

For individuals with moderate to severe OA who have not responded to medical therapy, TJA of the hip or knee is the accepted treatment.[4,22] About 95% of TJA procedures are performed for OA.[4] In 2004–2005, Canadians underwent 58,714 hip and knee arthroplasties, an 86.6% increase over rates reported a decade earlier.[5] The majority of TJA recipients are over 65 years old, retired, and living independently at the time of surgery.[4] Studies have shown a substantial sustained long-term improvement in joint pain, physical function, and quality

of life with low revision rates[23] in over 90% of TJA recipients.[4,24–26] Total joint arthroplasty ranks at or near the top among medical and surgical interventions in its cost-effectiveness and capacity to improve individuals' quality of life.[22]

Disparities in Quality of Osteoarthritis Care by Gender, Racial/Ethnic, and Socioeconomic Status

Although quality of care indicators for OA have been developed,[27] they have not been used to evaluate differences in care by gender, race/ethnicity, and SES. Relatively little is known about whether disparities exist in the medical management of OA.[28] Women, compared with men, have demonstrated a greater reliance on the use of acetaminophen in the presence of higher levels of pain and disability, suggesting that pain may be undertreated among women.[29] Numerous studies in the U.S. have reported lower rates of TJA among Blacks and Hispanics compared with use in Whites,[7–10] and among persons with low incomes compared with those with high incomes.[10] Unfortunately, the examination of TJA utilization rates based on administrative databases tells us only about who is getting care, not about who is not.

To explore the potential underuse of TJA, we conducted a population-based cohort study in two regions, one rural and one urban, in the province of Ontario. We surveyed 100% of the population 55 years and older (~50,000 people) to identify a cohort with moderate to severe OA (n = 2,411). The potential need for TJA (severe hip/knee OA and no surgical contraindications) was greater among women than men[6] and among individuals with less education and lower income,[11] yet people in these subgroups were less likely to be on a TJA waiting list.[6,11] Although age-adjusted rates of TJA are higher in women, TJA underuse in appropriate and willing surgical candidates was three times greater in women (5.3/1,000) than in men (1.6/1,000).[6] Further analysis of the Canadian cohort also found disparities in the rates of performance of TJA among individuals with less education and lower income.[11]

Possible Explanations for Disparities in the Quality of Osteoarthritis Care

Prevalence or Severity of Osteoarthritis

As noted above, lower rates of TJA among women and those with lower SES cannot be explained by a lesser clinical need; the prevalence of disabling OA is greater among women than men[6,30] and among persons with lower SES than among their wealthier counterparts.[7,11] There is also a higher prevalence of OA among blacks, Hispanics, Asians, and Pacific Islanders compared with whites.[31,32] Though the higher prevalence and severity of OA in these population subgroups may reflect an increased likelihood of developing the disease, an alternative explanation that must be considered is differential access to and use of arthritis health care services, or adherence to effective treatments among these individuals.[28,33]

Access to Health Care

While access to health care is frequently cited as a possible explanation for health care disparities based on race/ethnicity or SES, largely related to the scarcity of health care providers in the communities in which they live,[34] access barriers are less relevant for gender. Women are as likely as men to live in areas with a small number of physicians or to have difficulty getting to physician appointments, and research has consistently shown that women use health care services more than men.[35] Access barriers may also be less relevant for TJA use because most people with advanced OA are over 65 and are therefore eligible for Medicare if they live in the U.S. or, if they live in Canada, have access to universal health care regardless of their age.[36] However, women over 65, in whom OA is most prevalent,[30] are more likely to live in poverty.[37] Even with access to universal health care, SES is a significant factor in determining an individual's level of access to health care; in the Canadian population-based cohort, Hawker *et al.*[11] found that the degree of underuse of TJA was significantly greater for women than for men with high SES but that TJA was equally underused in men and women with low SES.

In Canada, a referral from a physician is required to see a specialist, including an orthopedic surgeon. In the Canadian study by Hawker *et al.*, although women were more likely than men to have seen their primary care physician in the past year for their OA,[6] among those deemed potential candidates for TJA, 32.5% of women compared with 41.8% of men had discussed TJA with a physician. Of these, 19.0% and 25.6%, respectively, had discussed TJA with an orthopedic surgeon.[6] Fewer surgery-specific patient-physician interactions would almost certainly result in fewer referrals to orthopedic surgeons for an arthroplasty consultation.

Lower Rates of Referrals for Orthopedic Surgeon Consultation

While TJA is generally acknowledged to be appropriate for patients with moderate to severe persistent pain or disability and radiographic evidence of joint damage,[15] family physicians are unclear about the levels of pain and disability that warrant TJA and have been shown to overestimate the risks and underestimate the benefits of TJA.[38] Furthermore, family physicians express a general lack of confidence in performing a comprehensive musculoskeletal examination.[39] As a result, making an accurate diagnosis and choosing the most appropriate therapy is challenging. When nonoperative treatment has been exhausted, TJA should be considered.

In a recent study involving two standardized patients with moderate knee OA (one female patient and one male, both scripted as middle-class, White, the same age, with no major comorbidities, and willing to have surgery), >90% of orthopedic surgeons, compared with 60% of family physicians, considered at least one of the standardized patients to

be an appropriate candidate for total knee arthroplasty (TKA).[40] This difference in recommendation of TKA suggests that family physicians have trouble identifying appropriate candidates for TJA. This is consistent with primary care physicians sharing common misperceptions that OA is a natural and inevitable part of aging[18,19] and that TJA is appropriate for end-stage disease,[41] resulting in referrals that generally occur at a more advanced stage of disease, when capacity to benefit is less.[42,43]

Although no racial/ethnic differences in referrals to orthopedic care for knee or hip OA have been observed,[44,45] research suggests that ethnic minorities generally receive fewer referrals for specialist care.[46] Evidence of lower or later referrals based on gender is unequivocal. Studies have shown that women, compared with men, are referred for surgical consultation less often[6,40,47] or later in the course of their disease when they have a relatively greater degree of disability.[48,49] One possible explanation may be that bias exists in primary care physicians' referral behaviours based on patient gender.[40] Physicians may assess risk or benefits of TJA differently depending on patients' gender or SES. Perceptions about an individual's need for, ability to benefit from, and ability to cope with TJA may inappropriately influence physicians' clinical decision-making. Based on patients' gender, physicians may make assumptions about patients' level of social support, whether they live alone, and their caregiving responsibilities, which may result in physicians never initiating a referral.[50]

Lower Rates of Recommendations for Total Joint Arthroplasty

When surveyed, orthopedic surgeons, compared with referring physicians, indicated the outcomes of TJA to be better and the complications fewer.[38,41] However, there was disagreement among orthopedic surgeons about patient characteristics that affect candidacy for, and outcomes of, TJA.[41] Of relevance here is that surgeons were less likely to perform TJA on patients who were over 80 years of age or were obese. On average, women are older at the time of TJA and, in our population-based cohort, individuals with lower SES were more likely to be female, older, and heavier.[11] Paradoxically, >93% of orthopedic surgeons indicated that patient gender does not effect their decision to perform TJA.[41] Similarly, 98% of surgeons indicated that patient race does not effect their treatment recommendation.[41] But what surgeons say they do in a survey and what they do in actual clinical practice is different.

Ethnic or gender bias among physicians has been documented.[40,51–55] In a recent study, we demonstrated that when orthopedic surgeons were presented with two standardized patients with identical clinical presentations of moderate knee OA differing only by gender, a male patient was nine times as likely as a female patient to receive a recommendation for TKA.[40] Surgeons also included fewer informed decision-making elements when the patient was a woman compared to a man.[55] Similar findings have been observed involving physicians providing less medical information and encouragement to participate to Black compared with White patients.[56,57] Years of practice may have led to orthopedic surgeons developing a misconception that women do not receive the same benefit from TJA as do men, and this may explain our findings. This preconceived notion may have come about because women typically receive surgery at a more advanced stage of disease than men[48,49] when the outcomes may be not as good.[42,43,49,58] However, the best evidence suggests that, assuming similar preoperative disease severity, women and men derive similar benefits from TJA.[4,48]

Age is also not an important predictor of outcome and should therefore not be a factor precluding TJA recommendation to healthy older adults who might benefit.[59] Either this knowledge has not effectively been disseminated or, in making decisions about candidacy for TJA, orthopedic surgeons may be differentially recommending surgery based on their perceptions of what is best for patients.

Patient Preferences or Willingness to Undergo Total Joint Arthroplasty

Patients' perceptions (and misperceptions) of their disease and preferences for, or willingness to consider, surgery may partly explain observed disparities in the quality of OA care in these subgroups.[6,60–63] Studies consistently indicate that among individuals considered medically appropriate for surgery, only one-third are willing to consider TJA.[60,63] Patients' misperceptions about candidacy for TJA seem to mirror those of their family physicians,[38] as unwilling individuals viewed their OA not as a disease but as a normal part of aging, and many overestimated the level of pain and disability for which TJA would be indicated.[18,64,65]

Studies have indicated a clear link between a willingness to consider TJA and individuals' knowledge of, and beliefs about the indications for, TJA and its risks and benefits. Willingness to have TJA has been shown to be lower among Blacks than among Whites.[66] Studies have shown that Blacks were less likely to have heard about and to know someone who had undergone TJA, and were more likely to perceive the risks to be greater and the benefits of TJA to be poorer.[62,67,68] Perceptions of TJA indications, risks, and benefits were less positive among those with lower SES and among women.[65] Though women were at least as willing as men to consider TJA,[6] gender may indirectly influence individuals' willingness to consider TJA. Although willingness is the strongest predictor of having TJA,[69] the most important predictor of definite willingness was having previously discussed TJA with a physician[60]; women were less likely to have done so.[6] Individuals who had been encouraged by family or friends to discuss TJA with their physician were more likely to have done so; women were less likely to get such advice.[65]

Additional research supports the hypothesis that compared with men, women perceive the risks of TJA to be higher. A study using focus groups was

conducted to examine for differences by race/ethnicity and gender in concerns of patients contemplating TKA.[70] Black women asked about the indications for surgery, reasons for their own candidacy, and benefits of surgery, while only White women asked about the risks of TKA. Men, on the other hand, raised issues surgeons tend to discuss, such as the surgical procedure itself. Besides having a greater risk aversion regarding surgery, women, compared with men, are more concerned about surgery interfering with their caregiving roles, being a burden on others, and with the postoperative period including length of time required for recuperation and supportive care for them during the recovery period.[64,70,71] Thus, a person's knowledge and beliefs regarding TJA vary systematically by gender, race/ethnicity, and SES and are shaped mainly by the patient's social network.

Key Points

- Osteoarthritis (OA) is the most common type of arthritis and a leading cause of chronic musculoskeletal pain and disability in older adults worldwide.
- Quality OA care includes recommending a combination of nonpharmacological and pharmacological interventions to your patients with OA, not just the use of acetaminophen.
- TJA is the accepted treatment for individuals with moderate to severe OA who have not obtained adequate pain relief and functional improvement from medical therapy.
- Despite the increase in TJA rates, there is evidence of disparity in the use of TJA based on patient characteristics such as gender, race/ethnicity, and socioeconomic status.
- Evidence suggests that there are multiple factors influencing inadequate OA care in these population groups including patients' and physicians' misperceptions about TJA indications, risks, and benefits; knowledge of someone who has undergone TJA; possible physician bias; differential dynamics at the level of the patient-physician relationship; and patients' preferences for care.
- Culturally tailored information materials to enhance patient-physician shared decision-making regarding TJA may help to reduce these glaring inequities in health care.

Four Steps to Ensuring Your Patient Gets the Best Care

Step 1: Improve the Quality of Your Osteoarthritis Care

Improve your comprehensive musculoskeletal examination skills (for example, by attending a continuing medical education workshop).

Recommend a combination of nonpharmacological interventions such as patient education, exercise, or weight loss (for overweight patients) and pharmacological interventions (e.g., supplementary use of NSAIDs or glucosamine) to your patients with OA—not just use of acetaminophen (data from our prospective population-based cohort suggest that ~30% use only acetaminophen[29]). The Osteoarthritis Research Society International treatment guidelines developed by expert consensus[17] and an article describing the development of the Arthritis Foundation's Quality Indicator Set for OA[27] are authoritative resources regarding the evidence on interventions for hip and knee OA. Evidence suggests that there are small reductions in pain and disability[72] and modest, yet clinically important, benefits for patients' well-being[73] with involvement in support groups such as the Arthritis Self-Management Program. There is strong evidence for the effectiveness of exercise in relieving pain and improving function,[74] with the additional benefits of improved lipid levels, blood pressure, and mood, and in reducing weight.

Consider TJA even for those patients with moderate hip or knee OA who are not obtaining adequate pain relief and functional improvement from a combination of nonpharmacological and pharmacological treatments, and recognize the potential for better surgical outcomes with early treatment.

Step 2: Correct Any Misperceptions Regarding Osteoarthritis and Learn When to Consider TJA

Understand that OA is not a disease that is transitory, an inevitable part of aging that poorly responds to treatment.

Realize that when making a decision about whether to refer a patient for an orthopedic consultation for possible surgery, TJA is not for end-stage disease (i.e., do not delay surgery until pain and functional limitation are unbearable).

Step 3: Improve Your Awareness Regarding the Potential Influence for Bias on Clinical Decision Making

Recognize that age and gender should not be limiting factors when considering healthy patients who might benefit from TJA. It is important that you acknowledge that a bias based on gender, race/ethnicity, or SES may affect your clinical decision making.

Increase your acceptance and awareness of the automatic, unconscious, unintentional nature of stereotyping that is pervasive in the rest of society to help you to self-recognize and challenge your own unconscious biases that may influence your clinical decision making.

Step 4: Provide Patient-Centred Care

Provide patient-centred care by ensuring that patients have all the information they need and that they understand their treatment options. Then help them choose the best treatment option that corresponds with their preferences. Remember to consider the expressed preferences, informational needs (i.e., ask them what they need to know), and decision-making style of the individual patient in addition to the evidence when making a clinical decision.

Use your informed decision-making skills[75] to foster patient involvement in decision making.

Conclusion

Given the potential for an increased quality of life with this highly effective treatment for moderate to severe OA, disparity in TJA utilization among individuals with need represents inadequate quality of care. Evidence suggests that there are multiple factors influencing OA care and the current disparity in rates of TJA by gender, race/ethnicity, and SES. These include a lack of resources (e.g., proximity to care, living circumstances, and social support); patients' and physicians' misperceptions about TJA indications, risks, and benefits; knowledge of someone who has undergone TJA; possible physician bias; differential dynamics at the level of the patient-physician relationship; and, finally, patients' preferences for care. The development and subsequent availability of evidence-based but culturally tailored information materials to enhance patient-physician shared decision making regarding TJA may help to reduce these glaring inequities in health care.

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