Author’s response to reviews

Title: Racial Disparities in Pre-Operative Pain, Function and Disease Activity for Patients with Rheumatoid Arthritis Undergoing Total Knee or Total Hip Arthroplasty: A New York Based Study

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To the editors:

Thank you for reviewing our paper, and we appreciate the input and the opportunity to improve it. Please see our responses and edits below.

Emilio Gonzalez, M.D. (Reviewer 1):
How were the Hispanic population identified and recruited? Was this done through a review of the subjects' last name, self identification, or both? This study was done in New York where there exists a large Puerto Rican and Dominican population, many of which are actually African American, or at least have some degree of African Heritage, as opposed to say a Mexican "Hispanic population" where native American Indian descendancy predominates.
Response: The Hispanic population in this study was identified via self-identification only. Unfortunately, we did not collect more specific data reflecting cultural heritage

In addition, were the Hispanics in this study excluded if their last name was not "Hispanic", in other words of Spanish descent?
Response: There were no exclusions made based on origin of last name
I am asking because there are many Central Americans, especially from Panama whose heritage is essentially African, and often these people have anglicized last names. yet, they are all Spanish speakers, and as such black "Hispanics". Basically, I am concerned about your identification of the "Hispanic" population in your cohort. Hispanic is more a culture and a group of people, as opposed to a defined specific race or ethnicity. I wish the authors would expand on this concept; thank you.

Response: Changed in text (methods, exposure and outcomes): “The exposure was minority status (self identified as Black or Hispanic) among patients with RA undergoing arthroplasty”

REQUESTED REVISIONS:

THA and TKA are completely different procedures, not least from postoperative pain and outcomes perspective. They should not be analysed together especially when looking at pain as outcome.

Response: Agreed that THA and TKA are completely different procedures from the perspective of the post-operative period. Your comment on this is well taken. As this study does not examine the post-operative period and focuses only on the pre-operative period at the time of presentation for surgery, THA and TKA were grouped together. For this cross-sectional study, we were interested in assessing the status at the time of presentation, as others have suggested that there is delay in presentation for Black and Hispanic patients that can impact outcome. If the post-operative period and outcomes are examined in a future study, as we hope to do, THA and TKA will not be grouped together, rather each would be examined on it’s own. Changes made in last paragraph of Discussion section regarding future study considerations include your suggestion.

The study makes no attempt at looking at outcomes such as illness perception and pain catastrophisation, factors that influence post surgical pain outcomes. Can the authors further justify their choice of outcome measures? There is no grading of the severity of secondary arthritis and preoperative functional deterioration both of which influence post-operative outcome.

Response: Illness perception and pain catastrophization are important concepts when comparing the outcomes of ethnic groups in the post-operative period. As this study did not assess the post-operative period, these concepts were not employed.

Changes made in last paragraph of Discussion section regarding future study considerations including your suggestion here.


The authors look at education levels, which are an important tool but fail to comment on occupational status, which may be a huge motivation to recover from surgical intervention. Can the authors comment on this.

Response: We agree, and in fact have previously observed that education can mitigate the effect of poverty on arthroplasty outcomes. Unfortunately, specific occupation was not consistently recorded as our question was simply “employed- yes/no” so we do not have that data.

Added to the text (Discussion-limitations): The cohort consisted of majority White females with some college education or higher, and we have previously demonstrated that education can mitigate the
effects of poverty on arthroplasty outcomes, but in this study, both white and minority patients had similar education, limiting the potential for introducing bias (2).


Were there any postoperative complications that may have influenced the results?
Response: Although examining postoperative complications would have provided important data, the post-operative period was not examined in this cross-sectional study. The data including pain, disease activity and function was collected at the pre-operative meeting and therefore the post-operative complications would not have influenced the results of this study but would make for an interesting future study. Changes made in last paragraph of Discussions section regarding assessing post operative complications in a future study.

Although as the authors point out these results are not generalizable as they represent the New York patient population, perhaps that should reflect in the title.
Response: Changed in title: “Racial Disparities in Pre-Operative Pain, Function and Disease Activity for Patients with Rheumatoid Arthritis Undergoing Total Knee or Total Hip Arthroplasty: A New York Based Study”

Added to text (Discussion-limitations): The study cohort is limited to patients who present for arthroplasty at a tertiary care specialty hospital in New York City, another limitation in generalizability. Racial or ethnic differences in pain perception or impact could bias these results; however, little difference in pain perception has been found between Blacks, Whites, or Hispanics (25). Finally, as in any observational study, our results may be affected by unmeasured confounders.