Video abstract transcript

Features of Knee and Multijoint Osteoarthritis by Sex and Race and Ethnicity: A Preliminary Analysis in the Johnston County Health Study

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Slide 1:

Hi! I'm Amanda Nelson, with the University of North Carolina at Chapel Hill, and I'm happy to introduce you to our paper. Features of knee and multi joint osteoarthritis by sex and race/ethnicity. This is a preliminary analysis from the Johnston County Health Study which is ongoing, and was led by a medicine resident at the time, Sherwin Novin, who's now a rheumatology fellow.

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This study enrolled the first 544 participants from the main study, and we did 2 preliminary cross sectional analyses: one focused on multiple joint osteoarthritis and patterns in this population based cohort, and the other in features of knee osteoarthritis.

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As a reminder, a population based cohort is not enrolled based on symptoms or disease, but rather just individuals who are enrolled using survey methods from a community, in this case, Johnston County, North Carolina. We also had a focus on sex and race differences in this analysis. You can see in the flow chart how the 544 individuals were selected.

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As with our typical population, it was about two-thirds women. We are working hard to enroll younger individuals in the Johnston County health study, so the mean age is about

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55. You can also see that there are about 10% Hispanic individuals, which is a focus of our new enrollment as well. The Bmi there is 32.

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For the first part, patterns of multiple joint osteoarthritis, we defined these based on our prior systematic review. We looked at the hands, hips, knees, ankles, and feet, and found that the most common multiple joint osteoarthritis types in this initial cohort involved 2 or more lower body sites, the knee or hip and one other site, or 3 or more joint sites of those 5.

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Men had a higher odds of having 3 or more lower extremity sites, but were less likely to have multiple hand sites, and that's consistent with our prior work. There were no clear differences by race, although the numbers were small in this preliminary analysis. This study is still enrolling, so we do expect to be able to answer some of those questions.

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For the second part, on knee osteoarthritis, we use standardized fixed flexion PA radiographs, and our same reader that we've had for over 30 years. In this part we see that women had higher odds of radiographic knee OA, and more ostephytes, sclerosis and lateral joint space narrowing. They also had worse self-reported KOOS symptoms scale scores.

Slide 8:

Black, compared with White participants, had more frequent and more severe radiographic knee OA.

They also had more osteophytes, sclerosis, and worse KOOS symptoms scores compared to White participants.

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Hispanic participants, although they were small in number, seemed to have less severe radiographic OA by the Kellgren Lawrence method, but similar measures of KOOS, and in some cases suggestion of worse KOOS scores.

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To summarize, the Johnson County Health Study represents a unique diverse population-based cohort of men and women. Some have osteoarthritis, but many of them do not have osteoarthritis. They also have the common comorbid conditions that you would expect in a population study. Therefore, this data set allows critical analysis of race and sex differences, social determinants of health, comorbidities as well as osteoarthritis in multiple joints. As I mentioned, we continue to enroll, and these larger numbers should enable additional subgroup analyses with improved statistical power. Our preliminary results suggest some important differences that do need further study around the pain experience in these subgroups.

Slide 11:

Again, I'd like to acknowledge our center and our funders, my co-authors, and particularly Sherwin, who's pictured here and again, is a rheumatology fellow, and will be one of our rheumatology colleagues very soon. Thank you.

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