The Interaction of Race and Socioeconomic Deprivation in Treatment of Patellofemoral Instability

Data from the JUPITER Cohort

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Disclosures

- Presenting author Dr. Brady is a speaker and consultant for Miach Orthopaedics
- Please see ISAKOS website for details on all authors

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Justifying **P**atellar **I**nstability **T**reatment by **R**esults

A hypothesis-driven, multi-center, multi-armed, prospective cohort study developed to obtain sufficient subjects to better describe clinical characteristics and predictors of clinical outcomes in the young patellar instability population

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Background

- Patellofemoral Instability
  - Often young, active patients
  - Risk for recurrence and resultant cumulative cartilage injury
  - Disparities in treatment not well understood
- Area Deprivation Index (ADI)
  - Based on zip code, separated into quartiles with worsening socioeconomic status
  - Low (Q1), Medium (Q2-3), High (Q4)

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Methods

- 1215 patients enrolled 12/2016 – 12/2021

- ADI and Race (white, black, other)
- Number of instability events
- Type of surgical intervention
  - Medial patellofemoral ligament reconstruction
  - Tibial tubercle osteotomy
  - Cartilage surgery (chondroplasty, osteochondral fracture treatment)
- Presence and severity of chondral lesions
- Patient reported outcomes scores
  - KOOS Pain, KOOS QOL
  - Banff Patellar Instability Index 2.0
  - Pedi IKDC

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Results

- Black patients = more frequently high ADI rank ($p<0.0001$)
- High ADI = higher BMI ($p<0.0001$)
- Baseline KOOS Pain lower in high ADI group (more pain, $p = 0.0483$)
- High ADI = less frequent chondroplasty ($p = 0.0041$) and osteochondral fracture treatment ($p=0.0099$)
  - (No difference in # of instability episodes or prevalence of osteochondral injuries)

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Results

- “Other” race patients more likely to present with first-time instability
  - Female patients and higher BMI more likely to present with recurrent instability
  - Predictors of increased number of instability events at presentation:
    - Black race
    - High ADI
    - Both

- Female and older age = decreased KOOS Pain score at presentation

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Conclusions and Limitations

- Race and socioeconomic status influence severity at presentation and treatment of patellofemoral instability
  - Disadvantaged backgrounds (particularly Black patients)
    - Higher BMI
    - Worse pain at baseline
    - Increased number of instability events prior to receiving care
    - Less frequent treatment for associated chondral/osteochondral injuries

- Limitations
  - Wide variety included in “other” category for race
  - Exclusion of non-English speakers (particularly Spanish)

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