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Effects Of Neighborhood-Level Socioeconomic Disadvantage On Hip Arthroscopy Patients

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DISCLOSURES

- *Research Support provided by:*

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- I (and/or my co-authors) have nothing to disclose directly related to this talk.
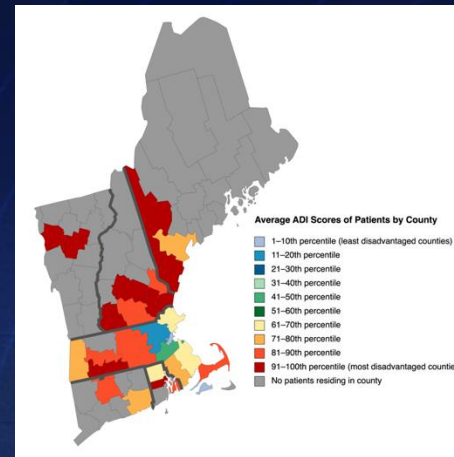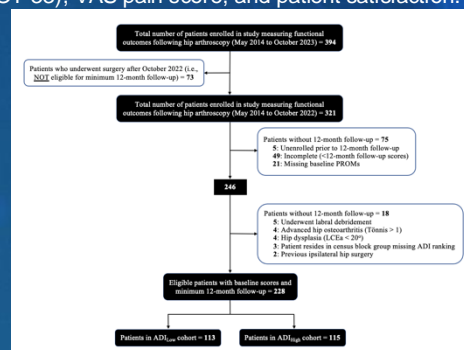
- I have no conflicts.

Background

- Global acetabular retroversion (GAR) is associated with increased risk of hip osteoarthritis, femoroacetabular impingement (FAI), and intra-articular soft tissue pathology.

- However, the role of GAR on total hip arthroplasty (THA)-free survivorship has not been explored.

Purpose

- The purpose of the present study is to investigate the influence of neighborhood-level socioeconomic status (SES) on functional outcomes following hip arthroscopy. We hypothesize that patients experiencing greater neighborhood-level socioeconomic disadvantage would report worse pre-operative baseline PROM scores and post-operative outcomes.

Methods

- This retrospective analysis of prospectively collected data queried patients aged greater than 18 years with minimum 1-year follow-up who underwent hip arthroscopy for the treatment of symptomatic labral tears secondary to FAI.
- The study population was divided into ADILow and ADIHigh cohorts according to ADI score, a validated measurement of neighborhood-level SES standardized to yield a score between 1 and 100.
- Collected patient-reported outcomes measures (PROMs) included the modified Harris Hip Score (mHHS), Nonarthritic Hip Score (NAHS), Hip Outcome Score (HOS)–Activities of Daily Living (HOS-ADL), HOS–Sports Specific Subscale (HOS-SSS), 33-item International Hip Outcome Tool (iHOT-33), VAS pain score, and patient satisfaction.

Average ADI Scores of Patients by County

	1–10th percentile (least disadvantaged counties)
	11–20th percentile
	21–30th percentile
	31–40th percentile
	41–50th percentile
	51–60th percentile
	61–70th percentile
	71–80th percentile
	81–90th percentile
	91–100th percentile (most disadvantaged counties)
	No patients residing in county

	ADI$_{Low}$	ADI$_{High}$	P-value
12 Months	**n=113**	**n=115**	
mHHS (modified Harris Hip Score)	20.7 ± 17.5	22.6 ± 18.7	0.424
HOS-ADL (Hip Outcome Score - Activities of Daily Living)	15.9 ± 18.6	20.2 ± 18.9	0.089
HOS-SSS (Hip Outcome Score - Sports Specific subscale)	24.5 ± 32.5	30.0 ± 25.3	0.159
NAHS (Nonarthritic Hip Score)	20.2 ± 17.6	22.4 ± 18.3	0.358
iHOT-33 (33-item International Hip Outcome Tool)	30.9 ± 23.9	34.8 ± 24.0	0.223
VAS Pain	-2.8 ± 2.9	-3.0 ± 2.6	0.517

12 Months	MCID									
	mHHS		HOS-ADL		HOS-SSS		NAHS		iHOT-33	
Variables	OR	P-value	OR	P-value	OR	P-value	OR	P-value	OR	P-value
ADI Score (0-100)	1.03	.047	1.03	.011	1.03	.036	1.02	.050	1.02	.113
Age	0.94	.001	0.97	.037	0.96	.004	0.96	.020	0.96	.010
Sex	3.48	.002	2.59	.004	1.59	.177	1.94	.053	2.19	.032
BMI	1.02	.716	1.12	.034	1.08	.140	1.13	.030	1.07	.253
Laterality	0.65	.243	0.97	.909	1.15	.670	.87	.661	1.93	.064
Tönnis Grade	0.84	.637	1.10	.765	0.53	.062	.77	.419	0.62	.168

Results

- 228 patients met inclusion criteria and were included in the final analysis.
- After stratifying patients by ADI score, the ADILow (n = 113; ADI: 5.8 ± 3.0; range: 1 to 12) and ADIHigh (n=115; ADI: 28.0 ± 14.5; range: 13 to 97) cohorts had no differences in baseline patient demographics.
- When comparing mean pre-operative baseline PROM scores between groups, a lower ADI score (ADILow) was associated with significantly higher scores compared to ADIHigh for all 5 PROMs: mHHS (66.3 ± 13.1 vs 61.8 ± 14.9; P = 0.017), HOS-ADL (74.5 ± 17.7 vs 67.6 ± 18.7; P = 0.005), HOS-SSS (47.8 ± 24.1 vs 41.1 ± 23.7; P = 0.034), NAHS (68.2 ± 16.8 vs 63.0 ± 17.3; P = 0.023), and iHOT-33 (43.8 ± 16.9 vs 38.6 ± 17.4; P = 0.024).
- At 1-year follow-up, these disparities resolved with both groups reporting statistically similar functional outcomes for all PROMs (P > 0.05). Furthermore, patients in both cohorts achieved similar rates of MCID for all 5 PROMs and PASS for 4 PROMs.
- When controlling for patient demographics, however, patients with higher ADI scores had greater odds of achieving MCID for all PROMs except for iHOT-33.

Conclusion

- Although hip arthroscopy patients experiencing greater neighborhood-level socioeconomic disadvantage exhibited significantly lower preoperative baseline scores, this disparity resolved at 1-year follow-up.
- In fact, when adjusting for patient characteristics including ADI score, more disadvantaged patients achieved greater odds of achieving MCID. The present study is merely a first step towards understanding health inequities among patients seeking orthopaedic care.