



Gender, Racial, and Ethnic Reporting in Trials of Regional Anesthesia for Total Joint Arthroplasty: A Systematic Review

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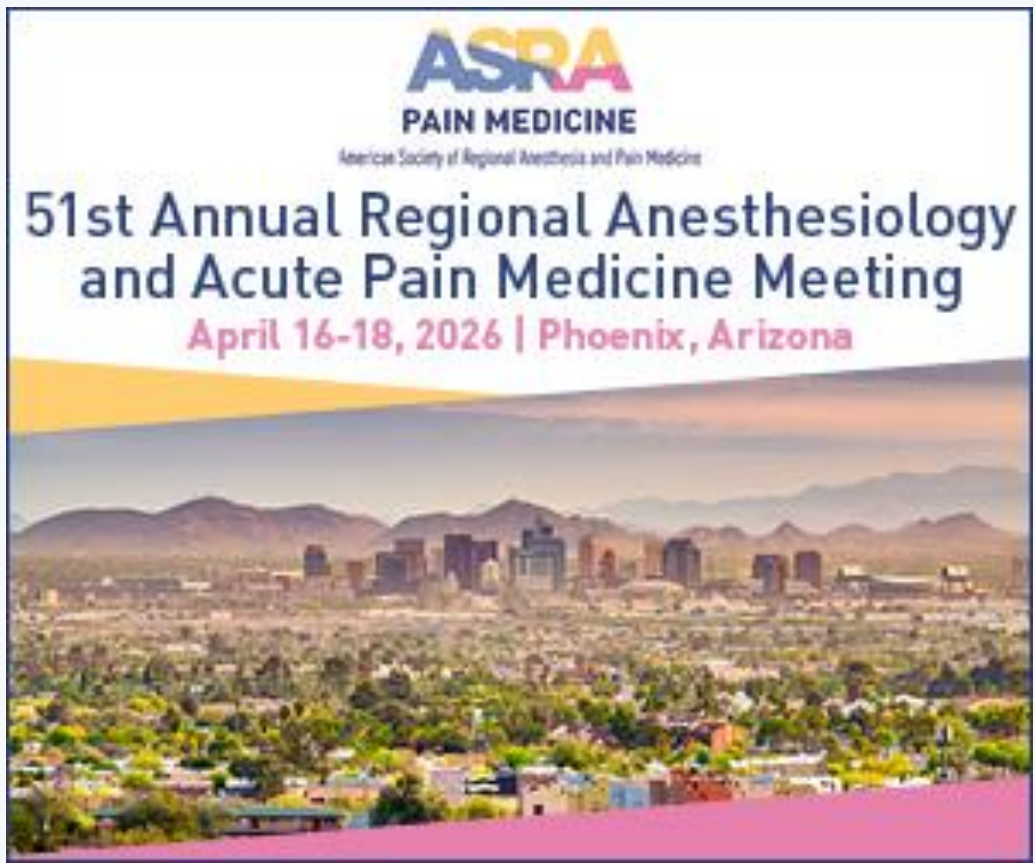
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INTRODUCTION

- Background/Rationale:**
 - Regional anesthesia provides significant perioperative benefits
 - Inadequate demographic representation and reporting in clinical trials may limit the ability to evaluate findings and perpetuate inequities
- Objective:** To assess the reporting of race, ethnicity, and gender in randomized controlled trials (RCTs) of regional anesthesia for total joint arthroplasty (TJA), one of the most common elective surgeries, conducted in the US

METHODS

- This review is exempt from IRB review requirements due to the lack of patient identifying information
- 29 published RCTs of regional anesthesia for TJA were identified from the Aggregate Analysis of ClinicalTrials.gov (AACT) from Jan 2015 - Aug 2025
- Data on trial and patient characteristics were extracted and compared between published articles and CT.gov by two independent reviewers
- Primary outcome:** reporting of participant gender, race, and ethnicity in publications and registry entries
- Secondary outcomes:** demographic distributions across racial and ethnic groups and associations between reporting and study characteristics
- Analyses performed in SAS

Figure 1. PRISMA Flow Diagram – Identification of Studies

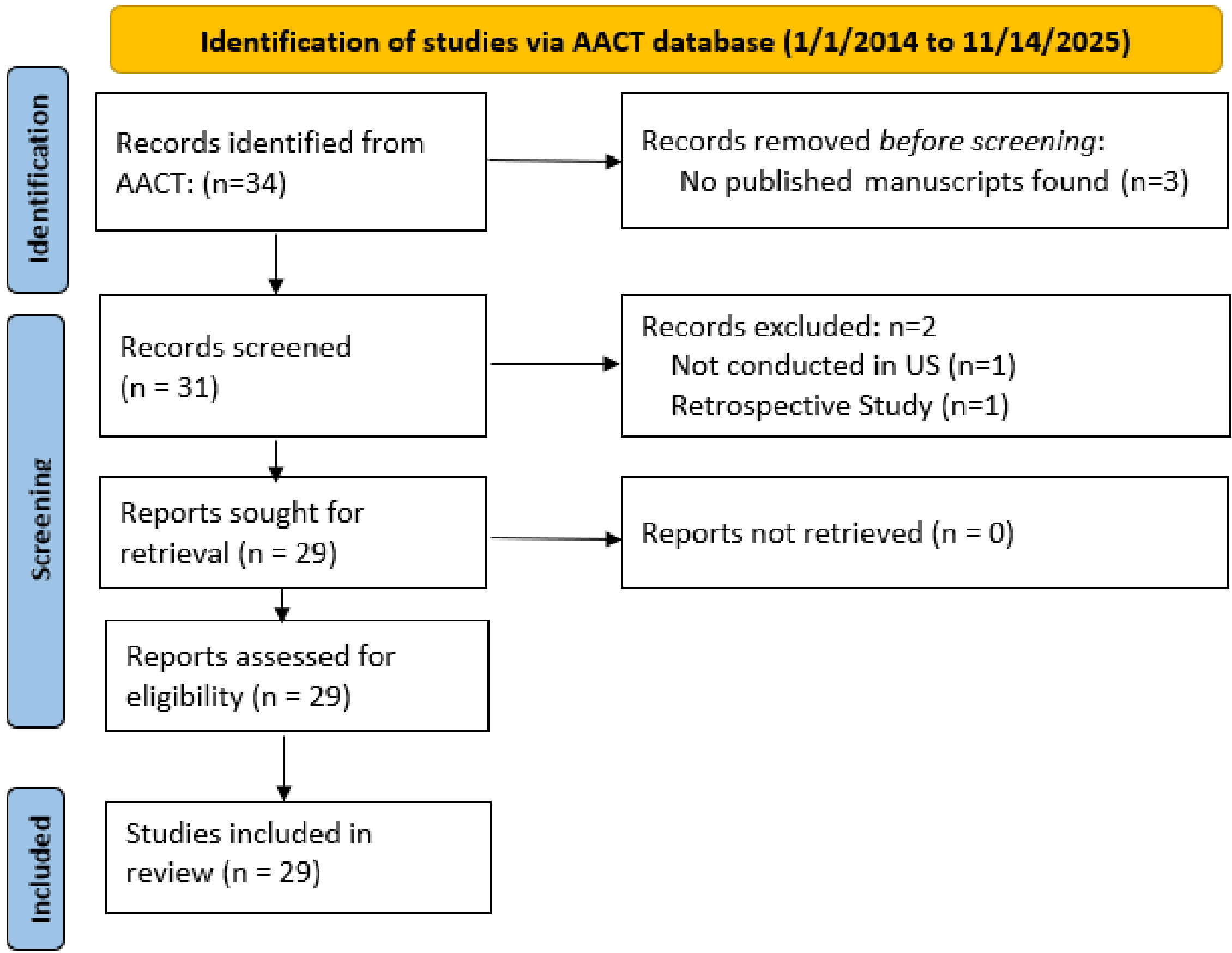


Table 1. Characteristics of Studies Reporting vs. Not Reporting Race, Ethnicity, and Gender

	Race Reported		P-value*	Ethnicity Reported		P-value*	Gender Reported		P-value*
	No (n=13) n (%)	Yes (n=11) n (%)		No (n=21) n (%)	Yes (n=3) n (%)		No (n=1) n (%)	Yes (n=23) n (%)	
Funding source									
N/A	4 (30.77)	7 (63.64)	0.22	9 (42.86)	22 (66.67)	1	1 (100.0)	10 (43.48)	1
Government	1 (7.69)	0 (0.0)		1 (4.76)	0 (0.0)		0 (0.0)	1 (4.35)	
Industry	2 (15.38)	0 (0.0)		2 (9.52)	0 (0.0)		0 (0.0)	2 (8.70)	
Institutional	6 (46.15)	3 (27.27)		8 (38.10)	1 (33.33)		0 (0.0)	9 (39.13)	
Institutional + gov	0 (0.0)	1 (9.09)		1 (4.76)	0 (0.0)		0 (0.0)	1 (4.35)	
Years									
2016-2020	10 (76.92)	4 (36.36)	0.095	13 (61.90)	1 (33.33)	0.55	0 (0.0)	14 (60.87)	0.42
2021-2025	3 (23.08)	7 (63.64)		8 (38.10)	2 (66.67)		1 (100.0)	9 (39.13)	
Center type									
Multicenter	1 (7.69)	0 (0.0)	1.00	1 (4.76)	0 (0.0)	1.00	0 (0.0)	1 (4.35)	1.00
Single	12 (92.31)	11 (100.0)		10 (95.24)	3 (100.0)		1 (100.0)	22 (95.65)	
Region									
Midwest	5 (38.46)	2 (18.18)	0.46	6 (28.57)	1 (33.33)	1	0 (0.0)	7 (30.43)	1
Northeast	5 (38.46)	7 (63.64)		10 (47.62)	2 (66.67)		1 (100.0)	11 (47.83)	
South	2 (15.38)	2 (18.18)		4 (19.05)	0 (0.0)		0 (0.0)	4 (17.39)	
West	1 (7.69)	0 (0.0)		1 (4.76)	0 (0.0)		0 (0.0)	1 (4.35)	
Number of participants									
0-49	1 (7.69)	2 (18.18)	0.86	2 (9.52)	1 (33.33)	0.16	0 (0.0)	3 (13.04)	0.54
50-99	6 (46.15)	5 (45.45)		11 (52.38)	0 (0.0)		0 (0.0)	11 (47.38)	
100+	6 (46.15)	4 (36.36)		8 (38.10)	2 (66.67)		1 (100.0)	9 (39.13)	

RESULTS

- Five studies were excluded following title/ abstract screening and failing to meet other inclusion criteria (Figure 1)
- 29 RCTs were included in the final analysis, representing 2,914 participants
- Published journal articles: 28 studies (96.55%) reported gender, 14 (48.28%) reported race, and 5 (17.24%) reported ethnicity in the published journal articles
- CT.gov: 22 (75.86%) reported gender, 12 (41.38%) reported race, and 7 (24.12%) reported ethnicity
- Trial characteristics were not significantly associated with reporting of race, ethnicity, or gender (Table 1)
 - Characteristics: funding source, publication year, single vs. multicenter design, geographic region, and number of participants

DISCUSSION

- In US-based regional anesthesia RCTs for TJA, gender is consistently reported, while race and ethnicity are not
- Predominantly white enrollment
- Reporting practices did not differ by trial characteristics, suggesting a field-wide issue
- Inconsistencies in demographic reporting on CT.gov
- Journals should require standardized reporting and investigators should strive to recruit diverse participants while acknowledging the site-specific constraints of recruitment diversity.

References

