Racial and Ethnic Disparities in Hospitalizations and Emergency Department Use of Persons With Inflammatory Bowel Disease: A Systematic Review and Meta-Analysis

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BACKGROUND

- The prevalence of inflammatory bowel disease (IBD) is rising worldwide, particularly in newly industrialized countries.
- Previous studies have attempted to characterize the impact of social determinants of health on health-care utilization, access to care, and overall outcomes in persons living with IBD.

OBJECTIVE

We aimed to determine differences in IBD-related hospitalizations and emergency department (ED) visits amongst different races and ethnicities.

METHODS

- **Study type:** Systematic Review and Meta-Analysis.
- **Databases Searched**: Medline & Embase
- **Timelines**: January 1st, 1946, to January 1st, 2022

- **Inclusion/Exclusion Criteria**
  - All primary studies exploring the impact of race or ethnicity on IBD-related hospitalizations, and ED visits were included.
  - Case reports, case series, reviews, and non-English studies were excluded.

- **Outcomes**
  - Primary outcome: To identify differences in IBD-related hospitalizations and ED visits between races and ethnicities.
  - Determine differences in disease location, disease phenotype, and IBD-medication exposure amongst the different races and ethnicities in the included studies.

- **Statistical Analysis**
  - Pooled odds ratios (OR) with 95% confidence intervals (CI).
  - All summary estimates were analyzed by DerSimonian-Laird random-effects models.
  - I^2 > 50% = Substantial heterogeneity.

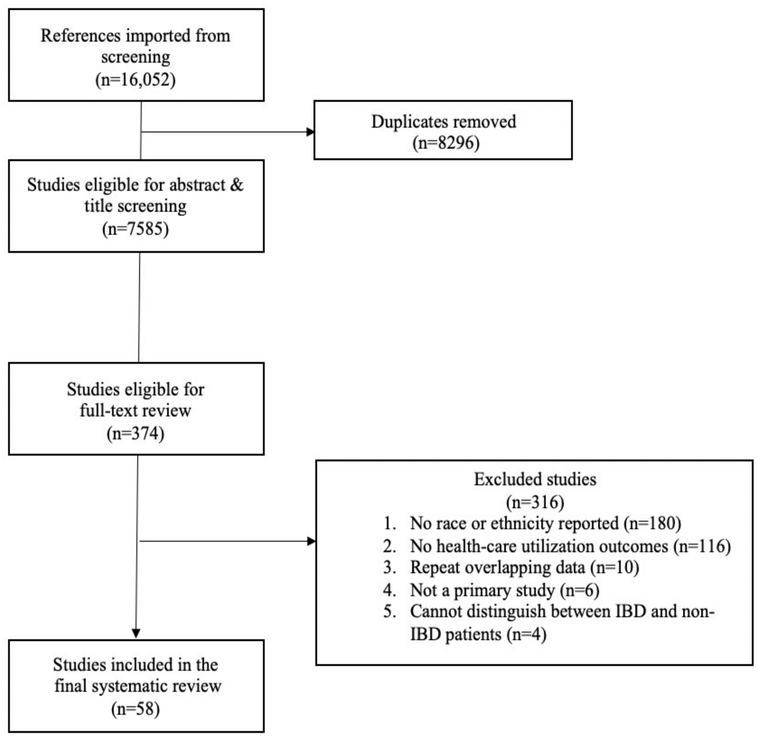

Figure 1: Study Flow Diagram

	African American/Blacks vs. Caucasian	
	Studies (n)	Pooled odds ratio (95% CI)
Crohn's disease		
Disease Location		
L1	10	0.58 (0.39-0.85), I^2=44.9%
L2	10	**1.36 (1.18-1.65), I^2=0%**
L3	10	0.83 (0.58-1.20), I^2=69.5%
Disease phenotype		
B1	7	0.98 (0.77-1.24), I^2=26.6%
B2	7	1.09 (0.88-1.36), I^2=0%
B3	8	0.89 (0.67-1.17), I^2=49.8%
Perianal	8	**1.40 (1.06-1.86), I^2=58.2%**
Therapy exposure		
Corticosteroids	11	1.07 (0.97-1.19), I^2=0%
Anti-TNF	8	1.09 (0.71-1.66), I^2=62.5%
Ulcerative colitis		
Disease phenotype		
E1	7	**2.14 (1.45-3.16), I^2=0%**
E2	7	1.11 (0.75-1.64), I^2=32.9%
E3	7	**0.55 (0.41-0.76), I^2=14.2%**
Therapy exposure		
Corticosteroids	6	0.79 (0.56-1.10), I^2=41.7%
Anti-TNF	5	1.00 (0.69-1.44), I^2=0%

Table 1: Pooled differences in disease characteristics and IBD-therapies between groups of patients.

RESULTS

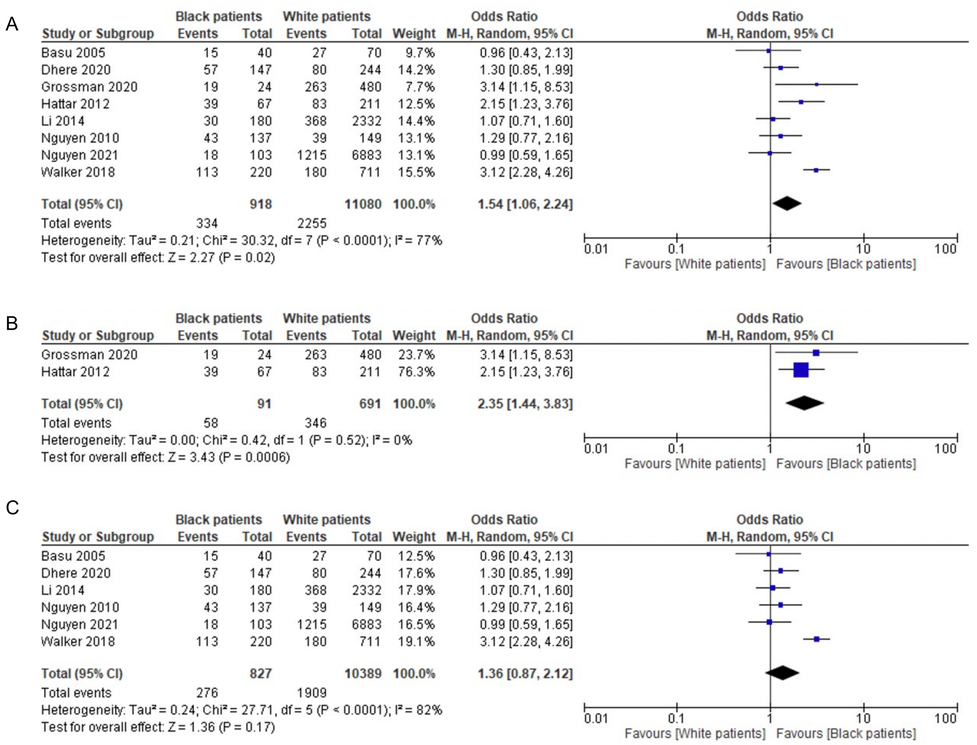

Figure 2: Proportion of Black and White **a)** patients hospitalized for IBD-related reasons, **b)** pediatric patients hospitalized for IBD-related reasons, and **c)** adult patients hospitalized for IBD-related reasons.

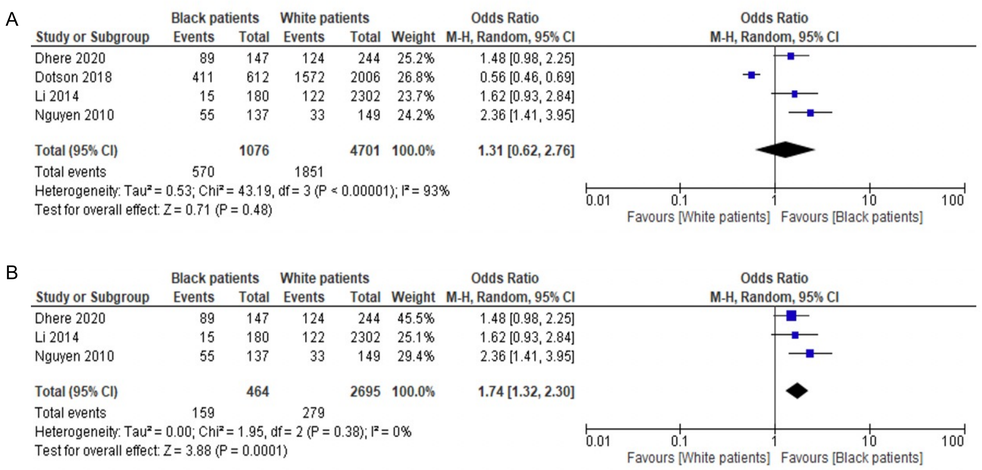

Figure 3: Proportion of Black and White patients **a)** with at least one emergency department visit for IBD-reasons and **b)** adult patients with IBD with at least one emergency department visit for IBD-reasons.

CONCLUSIONS

Black patients with IBD are more likely to be hospitalized and visit the ED for IBD reasons compared to White patients. Disease phenotype and severity do not account for these differences. As such, future research is imminently required to determine factors behind these differences to promote, and achieve, equitable care for all persons living with IBD.