

# Prevalence of Advanced, Precancerous Colorectal Neoplasia in Black and White Populations: A Systematic Review and Meta-analysis

Thomas F. Imperiale, MD, Priya R. Abhyankar, BS, Tim E. Stump, MA, Thomas W. Emmett, MD

**Background:** Colorectal cancer (CRC) incidence and mortality is higher in Blacks than in Whites. While the reason(s) for these disparities is unclear, some guidelines recommend CRC screening in Blacks starting at age 40-45.

**Objective:** To compare the prevalence of advanced adenoma (AA) or advanced, precancerous colorectal neoplasms (ACN) between asymptomatic Black and White screen-eligible adults.

**Methods:** We performed a systematic review and meta-analysis by first searching Ovid MEDLINE, PubMed, Embase, and the Cochrane Library to identify published literature from database inception to June 2017. We included studies measuring prevalence of AA or ACN in average-risk Blacks and Whites undergoing screening colonoscopy. Two authors independently assessed study quality and risk for bias using a modified NIH quality assessment instrument for cross-sectional studies, and independently abstracted descriptive and quantitative data from each study. A random effects meta-analysis was used, providing risk differences and odds ratios.

**Results:** From 1653 titles, we identified 9 studies that included 299,761 patients. The largest single study included 296,749 (99%) of all observations. Six of 9 studies were of high methodological quality and low-risk for bias. Overall prevalence of AA/ACN was no different between Blacks and Whites (OR=1.03; 95% CI: 0.81-1.30). Proximal AA/ACN prevalence was greater in Blacks than in Whites (OR=1.20; 95% CI: 1.12-1.30). Excluding the largest study resulted in no difference in overall (OR=0.99; CI, 0.73-1.34) or proximal AA/ACN prevalence (OR=1.48; CI: 0.87-2.52). Including only the highest quality studies for which pathology was available (study N = 5, subject N = 8,503) showed no difference in AA/ACN prevalence (OR=1.06; CI, 0.75-1.50) or proximal AA/ACN prevalence (OR=1.44; CI, 0.84-2.49).

**Conclusions:** Prevalence of AA/ACN is similar in average-risk Black and White screen-eligible persons, findings that support CRC screening beginning at age 50, irrespective of race.

**Bio:**

Priya Abhyankar is a third-year medical student currently interested in gastroenterology due to its focus on prevention through colorectal cancer screening. She is also interested in the wide range of pathology from various organ systems. Her greatest takeaway from her experience was realizing the importance of health outcomes research in improving the cost-effectiveness of our healthcare system.