

COLORECTAL CANCER DISPARITIES: A SYSTEMATIC REVIEW

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Background African Americans (AA), who have the highest colorectal cancer (CRC) incidence and mortality rates of all racial groups in the US, have a 20% higher likelihood of getting CRC and a 40% higher death rate.¹ In 2018 the American Cancer Society (ACS) modified its guidelines to recommend beginning CRC screening at age 45. In October 2020, the USPSTF adapted these ACS guidelines. We aim to study CRC disparities and precision cancer prevention in bringing awareness and addressing CRC disparities.

Methods A comprehensive staged literature search utilizing the PRISMA guidelines was performed on PubMed, Web of Science, and Cochrane Library, using relevant Medical Subject Headings (MeSH) keywords. After full-text analysis, all papers were screened and included only relevant articles on CRC Disparity.

Results We found that genetic factors contribute 35% to the overall risk of CRC. Genetic and biological differences like tumor microenvironment between White and AA communities play a crucial role in developing an aggressive tumor and its progression. For AA communities, an increased expression of cytokines and tumor-expressed macrophages in the tumor environment has a significant role in unchecked CRC progression. Currently, AA are more likely to be diagnosed later and have higher mortality rates at any age of diagnosis than Whites.² AA typically experiences delays or ends the treatment early, in addition to the specific disparities within chemotherapy administration.^{2–4} Among Native Americans, CRC is the second most common cancer and the second leading cause of cancer death. Other minority groups, including Ashkenazi Jews, are at a higher risk for CRC due to specific gene mutations.²

Conclusions Germline genetics and tumor phenotype can be correlated to racial identity and are one of the reasons why AA has higher mortality rates. The tumor microenvironment is impacted by non-genetic risk factors such as tobacco consumption and differences in the gut microbiome. In addition, communities of low socioeconomic status are impacted by discrepancies in CRC treatment and poorer medical care for AA, adding another aspect to the racial disparities in CRC diagnosis and management.⁵ Precision cancer prevention is the key to addressing CRC disparity. It will be helpful to improve access to CRC screening programs via state funding.⁶ Promoting CRC education about justice, equity, diversity, and inclusion awareness among PCPs and community workers in high-risk areas outside the catchment area of existing National Cancer Institutes (NCI) will be beneficial.⁷

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