

Colorectal Cancer Screening Participation and Barriers: A Literature Review

Meghan C. Rusco

Introduction

Colorectal cancer (CRC) remains one of the most common and preventable cancers worldwide. Despite advances in treatment and detection, it continues to represent a major public health concern due to its high incidence and mortality rates. Screening allows healthcare providers to detect precancerous polyps or early-stage cancer before symptoms appear, significantly improving survival outcomes and reducing healthcare costs. In the United States, colorectal cancer remains a leading cause of cancer-related death even though effective screening methods are widely available.

However, participation in recommended screening programs remains inconsistent. Many individuals who are eligible for screening do not complete recommended tests due to barriers related to healthcare access, socioeconomic conditions, and personal beliefs about screening procedures. This literature review examines existing research related to colorectal cancer screening effectiveness, organized screening programs, behavioral factors influencing screening participation, and disparities in screening uptake. Although screening technologies are effective in reducing morbidity and mortality, participation remains uneven due to structural barriers and psychological factors influencing screening decisions.

Effectiveness of Colorectal Cancer Screening

Colorectal cancer screening is widely recognized as one of the most effective strategies for reducing cancer incidence and mortality. Screening allows clinicians to detect and remove precancerous polyps before they develop into malignant tumors. Globally, colorectal cancer accounts for nearly two million new cases annually and more than 900,000 deaths, demonstrating the significant burden of this disease (Tonini & Zanni, 2024).

The slow progression of colorectal cancer allows a window of opportunity for early detection and prevention. The disease typically develops through the adenoma-carcinoma sequence over several years, which allows screening tests to detect abnormal growths before cancer develops. Colonoscopy, fecal immunochemical testing (FIT), stool DNA testing, and flexible sigmoidoscopy are among the most commonly recommended screening methods (Tonini & Zanni, 2024).

The United States Preventive Services Task Force recommends routine colorectal cancer screening for adults aged 45-75 years (USPSTF, 2021). Screening programs have been associated with declining colorectal cancer mortality rates in the United States over the past several decades (Siegel et al., 2023). Early detection also reduces treatment costs

and improves survival outcomes because cancers diagnosed at earlier stages are easier to treat.

Organized Screening Programs

Population-based screening programs play an important role in improving colorectal cancer screening participation. Organized screening programs systematically invite eligible individuals to participate in screening and ensure follow-up care for abnormal results. These programs provide infrastructure that allows healthcare systems to track participation rates and clinical outcomes.

One example of an organized screening system is the British Columbia Colon Screening Program, which offers biennial fecal immunochemical testing for individuals aged 50 to 74. Participants who receive abnormal results are referred for a follow-up colonoscopy. Organized programs also collect data on screening participation, diagnostic outcomes, and cancer incidence to improve screening effectiveness (Gentile et al., 2023).

Research indicates that organized screening programs improve both participation rates and early detection outcomes compared with opportunistic screening approaches. Interventions such as mailed FIT kits, patient reminders, and patient navigation services have been shown to significantly increase screening participation (Dougherty et al., 2018). These strategies reduce barriers to screening by making preventive care more accessible and convenient for patients.

Behavioral and Psychological Factors Influencing Screening

Behavioral and psychological factors strongly influence whether individuals participate in colorectal cancer screening. Even when screening services are available, individuals may avoid screening due to fear, embarrassment, or lack of awareness.

Rawl et al. (2000) conducted focus groups with individuals who had a family history of colorectal cancer and found that participants recognized the importance of screening but still faced barriers to participation. Participants identified several benefits of screening, including early detection, reduced risk of death, and reassurance regarding personal health.

However, the study also identified barriers such as embarrassment related to screening procedures, fear of receiving a cancer diagnosis, lack of awareness about colorectal cancer, and inconsistent recommendations from healthcare providers (Rawl et al., 2000).

These findings align with the Health Belief Model, which suggests that individuals are more likely to participate in preventive health behaviors when they perceive themselves as susceptible to disease and believe the benefits of action outweigh potential barriers. When individuals perceive screening procedures as uncomfortable or unnecessary, they may delay or avoid screening even when they understand the health risks.

Disparities in Colorectal Cancer Screening

Health disparities significantly influence colorectal cancer screening participation and outcomes. Screening participation varies across populations based on socioeconomic status, access to healthcare services, and demographic characteristics.

Research indicates that individuals with lower income, limited healthcare access, or a lack of insurance are less likely to complete colorectal cancer screening. These disparities contribute to later-stage cancer diagnoses among underserved populations (May et al., 2020). Additionally, screening uptake among adults aged 45–49 has remained uneven following recent guideline changes, with socioeconomic status and healthcare access influencing participation (Siddique et al., 2024).

Geographic disparities also affect screening participation. Individuals living in rural communities may experience reduced access to healthcare facilities and specialized screening services. Structural barriers such as transportation challenges, limited healthcare infrastructure, and financial constraints contribute to lower screening participation in underserved populations.

Addressing these disparities requires targeted public health interventions such as patient navigation programs, community-based education, and culturally tailored health communication strategies.

Conclusion

Colorectal cancer screening is one of the most effective strategies for reducing cancer-related morbidity and mortality. Screening technologies such as colonoscopy and fecal immunochemical testing allow for early detection and removal of precancerous lesions, preventing disease progression. Organized screening programs improve participation and ensure appropriate follow-up care, contributing to better clinical outcomes.

However, participation in colorectal cancer screening remains inconsistent due to psychological barriers, lack of awareness, and disparities in healthcare access. The literature suggests that improving screening participation requires addressing both behavioral and structural barriers to preventive healthcare. Future research should focus on identifying factors that influence screening intention and developing interventions that increase participation among underserved populations. Increasing colorectal cancer screening uptake will be essential for reducing the overall burden of this preventable disease.

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