Increasing Colorectal Cancer Screening Adherence: A Scoping Review

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Purpose

The purpose of this scoping review is to examine existing literature for strategies to increase colorectal cancer screening (CRCS) adherence in normative risk adults aged 45 to 75 years.

Specific Aims

- Investigate ways to increase CRC screening compliance.
- Determine barriers to CRCS adherence.
- Ascertain how to address those barriers.
- Find out how to improve patients' perception of CRCS.

Background

- Colorectal cancer (CRC) is the second leading cause of cancer-related deaths in the United States.
  - Rates have steadily increased in recent years due to high rates of obesity, smoking, and sedentary lifestyles.
  - Screening for the disease can lead to early detection and reduced morbidity/mortality, yet screening rates remain low.
  - According to the CDC, screening for CRC should now begin at age 45 for the average-risk individual, instead of age 50 as previously recommended.
- Existing literature is extensive in discussing methods to increase CRCS adherence.
- A scoping review allows for increased understanding of barriers to CRCS and how to address those barriers to increase screening compliance.
- Increasing colorectal cancer screening is crucial to early disease detection, prompt treatment, and reducing CRC-related deaths.

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Methods

- **Inclusion Criteria**
  - Articles published from year 2011 to year 2021
  - Full-text and peer reviewed
  - Published in English or translated to English
- **Information Sources**
  - Databases included: SCOPUS, CINAHL Complete, Science Direct, Medline, Discovery Search, and PubMed
- **Search**
  - Key search terms: "colorectal cancer screening" AND "adherence" OR "barriers"
- **Selection of Sources**
  - Each team member chose three to six articles.
  - Team members divided and peer reviewed articles.
- **Synthesis of Results**
  - Synthesized and illustrated data from the review in a synthesis table
  - 4 outcomes on synthesis table:
    - Does the proposed method increase CRCS?
    - Were *new* methods used to increase CRCS rates?
    - Does the patient have a better perception of CRCS overall?
    - Did educating the patient about the importance of CRCS help?

Results

↑, ↓ , —, NE, NR, ✓	1	2	3	4	5	6	7	8	9	10	11	12
Increased CRCS	NE	↑	-	NE	↑	↑	↑	↑	↑	-	↑	↑
New methods to increase CRCS rates	✓	✓	✓	NE	✓	✓	✓	✓	✓	✓	✓	✓
Better perception of CRCS	✓	✓	✓	✓	NE	✓	NE	✓	✓	✓	✓	NE
Educating about importance of CRCS	✓	✓	✓	✓	✓	✓	NA	✓	✓	✓	✓	✓

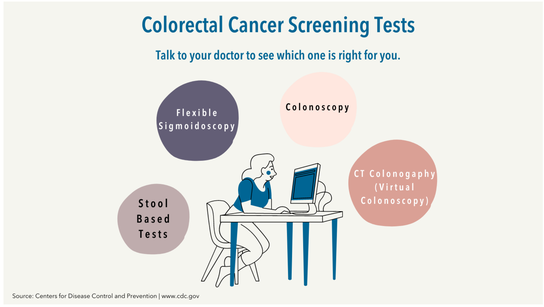
1= Bertels et al. (2020); 2= Gupta et al. (2013); 3= Hoffman et al. (2017); 4= Holden (2019); 5= Horne et al. (2015); 6= Leach et al. (2021); 7=Pandey et al. (2021); 8= Sanders et al. (2016); 9= Serra et al. (2017); 10= Smith et al. (2017; 11= Stevens et al. (2016); 12= Zhu et al. (2021)

SYMBOL KEY
↑ = Increased, ↓ = Decreased, — = No Change, NE = Not Examined, NR = Not Reported, ✓ = applicable or present
CRCS= Colorectal Cancer Screening

Out of the articles we analyzed, 66.7% of the articles reported increased CRCS rates. 91.7% of the articles proposed new methods to increase CRCS rates. 75% of the articles achieved improved patient perception of CRCS. 91.7% of the articles discussed the importance of educating patients about the necessity of CRCS. Overall, our 12 articles performed well within the four categories mentioned in the table above. Educating patients, letting them choose their modality of screening, having the most up-to-date information, and exploring each patient's mindset about CRCS are all crucial components for screening adherence.

Implications for Practice

- While colonoscopies are more sensitive tests for colorectal neoplasia, noninvasive tests may boost screening rates especially for underserved populations that may have barriers that impede access to colonoscopies (Gupta et al., 2013).
- Educating patients about different CRCS methods available, the importance of CRCS, and the risks involved with neglecting testing will increase patient autonomy and, hopefully, increase screening adherence rates as well.
- If we continue to educate, offer multiple modalities for testing, and utilize less invasive testing, we can increase CRCS rates nationwide.
  - Following CRCS guidelines prevents cancer related deaths.



GW Cancer Center, 2022

References

Bertels, L., Luccassen, P., Asselt, K., Dekker, E., Weert, H., & Knottneus, B. (2020). Motives for non-adherence to colonoscopy advice after a positive colorectal cancer screening test result: A qualitative study. *Scandinavian Journal of Primary Health Care, 38*(4), 487-498. https://doi.org/10.1080/02813432.2020.1844391

Centers for Disease Control and Prevention .(2013). *Colorectal cancer tests save lives*. https://www.cdc.gov/vitalsigns/colorectalcancerscreening/index.html#

Gupta, S., Halm, E., Tong, L., Ahn, C., Argenbright, K., Tiro, J., Geng, Z., Pruitt, S., Skinner, C., Rockey, D., Hammons, M., Valdez, L., Koch, M., Carter, E., & Kashner, M. (2013). Comparative effectiveness of fecal immunochemical test outreach, colonoscopy outreach, and usual care for boosting colorectal cancer screening among the underserved: A randomized clinical trial. *JAMA Internal Medicine*, *173*(18), 1725–1732. https://doi-org.ezproxy.uthsc.edu/10.1001/jamainternmed.2013.9294

GW Cancer Center (2022). Colorectal cancer awareness month messages and graphics [Infographic]. GW School of Medicine & Health Sciences. https://cancercontroltap.smhs.gwu.edu/news/colorectal-cancer-awareness-month-campaign

Hoffman, A., Lowenstein, L., Kamath, G., Housten, A., Leal, V., Linder, S., Jibaja-Weiss, M., Raju, G., & Volk, R. (2017). An entertainment-education colorectal cancer screening decision aid for African American patients: A randomized controlled trial. *Cancer*, *123*(8), 1401–1408. https://doi.org/10.1002/cncr.30489

Holden, S. (2019). Community assessment of colorectal cancer screening compliance in northwest Louisiana. *International Quarterly of Community Health Education, 40*(4), 273-279. https://doiorg.ezproxy.uthsc.edu/10.1177/0272684X19885515

Horne, H., Phelan-Emrick, D., Pollack, C., Markakis, D., Wenzel, J., Ahmed, S., Garza, M., Shapiro, G., Bone, L., Johnson, L., & Ford, J. (2015). Effect of patient navigation on colorectal cancer screening in a community-based randomized controlled trial of urban African American adults. *Cancer Causes & Control*, *26*(2), 239–246. https://doi.org/10.1007/s10552-014-0505-0

Leach, K., Granzow, M., Popalis, M., Stoltzfus, K., & Moss, J. (2021). Promoting colorectal cancer screening: A scoping review of screening and resources. *Preventive Medicine, 47*, 106517. https://doi-org.ezproxy.uthsc.edu/10.1016/j.ypmed.2021.106517

Pandey, S., Fish, S., & Roy, H.(2021). Increasing colorectal cancer in the young population and tailoring of the colorectal cancer screening recommendations in subpopulation: A retrospective single-center study. International Journal of Colorectal Disease, 36(7), 1515-1524. https://doiorg.ezproxy.uthsc.edu/10.1007/s00384021-03934-6

Sanders, M., Fiscella, K., Veazie, P., Dolan, J. G., & Jerant, A. (2016). Does patient time spent viewing computer-tailored colorectal cancer screening materials predict patient-reported discussion of screening with providers? Health Education Research, 31(4), 555–562.https://doiorg.ezproxy.uthsc.edu/10.1093/her/cyw032

Serra, Y., Colón-López, V., Savas, L., Vernon, S., Fernández-Espada, N., Vélez, C., Fernández, M. (2017). Using intervention mapping to develop health education components to increase colorectal cancer screenings in Puerto Rico. Frontiers in Public Health. https://doi-org.ezproxy.uthsc.edu/10.3389/fpubh.2017.00324

Smith, S., Alema-Mensah, E., Yoo, W., Ansa, B., & Blumenthal, D. (2017). Persons who failed to obtain colorectal cancer screening despite participation in an evidence-based intervention. Journal of Community Health, 42(1), 30–34. https://doiorg.ezproxy.uthsc.edu/10.1007/s10900- 016-0221-7

Stevens, A. & Eardley, D. (2016). Evaluation of a technology enabled tool to improve colorectal cancer screening. Online Journal of Nursing Informatics, 20(1).

Zhu, X., Parks, P., Weiser, E., Jacobson, D., Limburg, P., & Rutten, L. (2021). Barriers to utilization of three colorectal cancer screening options-Data from a national survey. Preventative Medicine Reports, 24, 101508. https://doiorg.ezproxy.uthsc.edu/10.1016/j.pmedr.2021.101508