

Predictors of Colorectal Cancer Screening among High-Risk Survivors of Childhood Cancer

Casey L. Daniel, MPH, Connie Kohler, DrPH, Paul Nathan, MD, MSc,
Kevin Oeffinger, MD, Kayla Stratton, MS, Wendy Leisenring, ScD,
Kim Whelan, MD, MSPH, John Waterbor, DrPH, MD, Tara Henderson, MD, MPH,
Greg Armstrong, MD, Kevin Krull, PhD, Les Robison, PhD

Purpose: To identify predictors of colorectal cancer (CRC) screening guidelines (colonoscopy every 5 years beginning at age 35 or 10 years post-treatment) among high-risk survivors of childhood cancer in the Childhood Cancer Survivor Study (CCSS) cohort. High-risk is defined as childhood cancer survivors who received ≥ 30 Gy radiation therapy to the abdomen, pelvis, or spine and were 36 years or older at the time of the CCSS 2007 Follow-Up Questionnaire.

Methods: Among 711 5-year survivors of childhood cancer who completed the CCSS 2007 Follow-Up Questionnaire and met criteria for being at increased risk of CRC, we determined potentially significant variables associated with self-reported CRC screening participation. Univariate and Multivariable generalized linear models with a log link and Poisson distribution were used to directly calculate relative risks for adherence to CRC screening guidelines (via blood stool testing colonoscopy/sigmoidoscopy).

Results: The 711 survivors were at increased risk for CRC and eligible for the study were at a current mean age of 44 years (SD=5.2 years). Among them, 231 (32.5%) reported ever participating in home blood stool testing and 276 (38.8%) reported ever having colonoscopy/sigmoidoscopy. Of the 711 participants, 60 (8.4%) reported participating in home blood stool testing in the past year (meeting guidelines for the general population) and 207 (29.1%) reported having colonoscopy/sigmoidoscopy in the past 5 years (meeting screening recommendations for high-risk individuals). In the multivariable analyses: any physical impairment causing need for assistance of others in routine needs such as household chores, necessary business, shopping or getting around (RR=1.7, 95% CI=1.2-2.2), having discussed future cancer risk with a physician at most recent follow-up visit (RR=1.3, 95% CI=1.1-1.6), and age 50 or older at the time of survey completion (RR=2.4, 95% CI=1.9-2.9) were significantly associated with participating in CRC screening. Survivors who reported that their most recent routine cancer follow-up visit was within one year prior to questionnaire completion (RR=1.7, 95% CI=1.2-2.5) were more likely to have completed cancer screening than those who never had a checkup or had it more than 5 years prior.

Conclusions: Older age and increased contact with the health care system are associated with greater adherence to CRC screening guidelines likely due to increased awareness of long-term health risks. These findings underscore the importance of maintaining ongoing, life-long risk-based care with childhood cancer survivors to ensure they attend and receive appropriate follow-up care.