

Improving Rates of Colorectal Cancer Screening Through Direct Mailing of Fecal Occult Blood Tests

Church TR, Yeazel MW, Jones RM, et al. A randomized trial of direct mailing of fecal occult blood tests to increase colorectal cancer screening rates. *J Natl Cancer Inst* 2004;96:770–80.

Study Overview

Objective. To determine the effect of directly mailing fecal occult blood test (FOBT) kits on colorectal cancer screening rates.

Design. Randomized controlled trial with an intention-to-treat analysis.

Setting and participants. Participants were randomly selected from residents living in Wright County, MN, a nonurban county located near Minneapolis-St. Paul, and were identified using the Minnesota State Driver's License and Identification database. Participants were eligible if they were at least age 50 years and had a mailing address in Wright County. Patients who were at high risk for colorectal cancer or who had a prior diagnosis of colorectal cancer were excluded.

Intervention. Participants were randomized into 3 groups: a control group receiving no direct mailing of FOBT, 1 group receiving FOBT kits by direct mail as well as reminders to complete the tests, and 1 group receiving the FOBT kit by direct mail but no reminders. All groups received a baseline and a 1-year follow-up questionnaire to assess adherence to colorectal cancer screening guidelines. The reminder intervention included a mailed reminder and a second FOBT kit mailed 1 month after the initial mailing for nonresponders, followed by a telephone reminder 1 month later.

Main outcome measure. The effect of the intervention on rates of self-reported overall adherence to colorectal cancer screening guidelines.

Main results. 1398 participants were randomly assigned to the 3 study groups. The mean age of the sample was 63 years, and 53% of the population was female. The overall response rate for the questionnaire at baseline and 1-year follow-up was 89.8% and 91.4%, respectively. Baseline and 1-year follow-up demographic characteristics between the study groups were similar. The overall estimated baseline colorectal

screening rate was 21% (95% confidence interval [CI], 19%–24%) for FOBT and 56% (95% CI, 53%–59%) for any colorectal cancer screening intervention. For adherence to FOBT, the 1-year rate changes were 1.5% (95% CI, –2.9%–5.9%) for the control group, 16.9% (95% CI, 11.5%–22.3%) for the FOBT without reminders group, and 23.2% (95% CI, 17.2%–29.3%) for the FOBT with reminders group. For overall adherence to any colorectal cancer screening procedure, the 1-year rate changes were 7.8% (95% CI, –3.2%–12.0%) for the control group, 13.2% (95% CI, 8.4%–18.2%) for the FOBT without reminders group, and 14.1% (95% CI, 9.1%–19.1%) for the FOBT with reminders group.

Conclusion. Direct mailing of FOBT kits increased the rates of colorectal cancer screening using FOBT. Overall adherence to any colorectal cancer screening intervention also was increased; however, this increase did not reach statistical significance.

Commentary

Colorectal cancer remains the third most common cancer in men and women, with 147,500 new cases diagnosed in 2003. Mortality rates from colorectal cancer have been on the decline, yet over 57,000 people died from the disease in 2003, making it the second most common cancer-related death [1]. In the absence of a family history, current screening guidelines recommend initiation of colorectal cancer screening interventions, including FOBT, flexible sigmoidoscopy, or colonoscopy at age 50 years [2,3]. Randomized trials have demonstrated that colorectal cancer screening interventions reduce cancer-related mortality [4], yet screening rates remain unacceptably low [5]. With known effective preventive interventions, improving screening rates for colorectal cancer is a high priority. Church et al have conducted a randomized trial designed to determine if direct mailing of FOBT kits will increase screening rates and if serial reminders confer any additional benefit.

The study was initially designed to determine if reminders might further increase rates of adherence to colorectal cancer screening. Unfortunately, due to a mailing

error, 50% of individuals allocated to the FOBT without reminder group received the first reminder. This significant contamination most likely makes any assessment of the effect of reminders invalid. Despite this study limitation, participants randomized to either direct mailing group had a statistically significant increase in adherence rates to FOBT. This study addresses only 1 component of a multifaceted colorectal cancer control program. During this trial, the residents of Wright County received educational material through radio and newspapers and public service announcements and had access to free FOBT kits in public places. Although having a control group helps address the marginal gains of the direct mailing campaign, the concomitant uses of alternative methods to increase screening rates limits some of this trial's generalizability.

Applications for Clinical Practice

Direct mailing of FOBT kits increased the use of FOBT for colorectal cancer screening. Overall rates of colorectal cancer were almost doubled in the direct mailing groups. Although this increase did not meet statistical significance, it is clinically significant and warrants larger studies evaluating this

intervention.

—Review by Harvey J. Murff, MD, MPH

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