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- Insights into a 9-Year Follow up Study in Sweden

Abstract

Background: A high participation rate is a prerequisite for a screening program to be effective. We have evaluated sigmoidoscopy screening with regard to compliance, factors associated with nonparticipation and possible self-selection in an average risk population of Sweden – a country without a national colorectal cancer screening program.

Methods: From the population register, we randomly selected two thousand 59-61 year old men and women and invited them to a screening sigmoidoscopy. These individuals were randomized to being telephoned by a nurse to schedule an appointment or asked to call and make the appointment themselves. To study background factors associated with nonparticipation, various registers were utilized to provide information on each individual's e.g. gender, marital status, income, distance to the screening center, and hospitalizations. All invitees were followed-up for nine years by means of record linkages to the Cancer- and Cause of Death Register.

Results: Thirty-nine per cent (771/1986) participated and there was no difference in participation between the methods of invitation. Male gender, unmarried or divorced, and low income was associated with nonparticipation, but distance to the screening center and hospitalizations had no effect. The cancer and mortality incidences tended to be higher among nonparticipants compared those who participated, e.g. colorectal cancer incidence (IRR=2.2 [0.8-5.9]) and mortality from gastrointestinal cancer (MRR=4.7 [1.1-20.7]). Relative to the matching general population, there was an overall increased risk of the studied outcomes among nonparticipants and a *decreased* risk among participants (e.g. a 40% decreased risk of mortality from cancer and a 50% decreased risk of all-cause mortality).

Summary: Higher-risk people are shunning colorectal cancer screening. Invitation routines must appeal to men, unmarried individuals and people with low socio-economic status to increase screening uptake. A more personalized invitation has limited effect. We did not find any practical obstacles for participation – the mechanism explaining *why* the nonparticipants actually declined participation needs attention.