Interventions to promote colorectal cancer screening: an integrative review

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CRD summary
This review concluded that several effective interventions to promote colorectal cancer screening were identified, but trial limitations made it difficult to draw definitive conclusions. The review had numerous limitations, which cast doubt on these cautious conclusions.

Authors' objectives
To evaluate the evidence from trials of interventions to promote colorectal cancer screening.

Searching
PubMed and CINAHL were searched for studies, published in English, between 1997 and 2007; search terms were reported.

Study selection
Randomised controlled trials (RCTs) of interventions designed to increase participation in colorectal cancer screening were eligible. Trials had to report an outcome focusing on colorectal cancer screening behaviour.

In the included trials, the interventions promoted faecal occult blood testing, flexible sigmoidoscopy, colonoscopy, or more than one test; about half the trials promoted more than one test. The type of intervention varied widely; the most frequent were pamphlets or brochures, educational videos, telephone counselling, and mailed testing kits. Control interventions varied, but most were usual care, or minimal or brief interventions. Most trials were conducted in the USA, in a primary care setting.

The authors did not state how many reviewers selected trials.

Assessment of study quality
The trials were evaluated using the Transparent Reporting of Evaluations with Non-randomised Designs (TREND) criteria. These included whether or not trials described their methods of recruitment, but did not include an assessment of these methods. Scores could be between 0 and 20.

Several reviewers were involved in this process, but it was unclear whether or not every trial was evaluated by at least two reviewers.

Data extraction
The data were extracted on the nature of interventions and the direction of the effect reported. The authors did not state how many reviewers extracted the data.

Methods of synthesis
A narrative synthesis was performed, with trials grouped by the type of promoted screening test (endoscopy, faecal occult blood test, or more than one test). Flexible sigmoidoscopy and colonoscopy were classed together, as endoscopy.

Results of the review
Thirty-three trials were included. Sample sizes ranged from 76 to 13,215 participants.

Faecal occult blood test: TREND results – all 10 trials described their eligibility criteria and included negative findings. All but one described their methods of recruitment; none described the activities to increase participation. Four trials reported generalisability, and four scored 19 out of 20. Positive findings (higher test completion rates with the intervention) were reported in six trials; the interventions varied widely, and five were patient directed. Negative findings were reported in two trials that had quite active comparators. One trial reported that its intervention was effective for men, but not for women.
Endoscopy: TREND results – few of the seven trials described their activities to increase adherence. Six described their methods of recruitment and eligibility criteria. Five reported on generalisability. Significant effects favouring the intervention were reported in two colonoscopy trials and two flexible sigmoidoscopy trials. One trial found significant effects on the outcome of a complete diagnostic evaluation, defined as a colonoscopy or combined flexible sigmoidoscopy plus barium enema X-ray. There were no significant differences between groups in the remaining two trials. The interventions with significant effects were all directed at patients.

More than one test: TREND results – five of the sixteen trials described their activities to increase adherence. Twelve trials described their eligibility criteria. Fourteen reported on generalisability, and methods of recruitment. Significant effects favouring the intervention were reported in nine trials; the interventions varied, and seven were patient directed. Negative findings were reported in six trials.

Authors’ conclusions
Several effective interventions to promote colorectal cancer screening were identified, but trial limitations made it difficult to draw definitive conclusions.

CRD commentary
The review addressed a clear question and was supported by broad eligibility criteria. Searches were conducted up to 2007; it was unclear why this was not later, as the review was out of date when it was published in 2012. The authors did not clearly report any methods to minimise the risk of reviewer error and bias, such as two people independently selecting the trials.

The trials were assessed for their reporting quality, using the TREND tool – which was designed for non-randomised studies; the likelihood that bias may have influenced the trial results was not assessed. This focus on reporting detail means that it is not possible to appraise the reliability of the evidence. Comprehensive trial details were provided and a narrative synthesis appears to have been appropriate, given the variation between them. A simple vote-counting synthesis was reported, and it took no account of sample size nor the likely reliability of each trial’s results.

The authors’ conclusions were cautious, but the review had numerous limitations, which cast doubt on their reliability.

Implications of the review for practice and research
Practice: The authors did not state any implications for practice.

Research: The authors recommended comparative effectiveness research to understand which strategies worked best for specific populations. Trials should use theory to guide their interventions, examine the moderators and mediators, consistently report their results, and use comparable outcome measures.

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