Cochrane for Clinicians

Putting Evidence into Practice

General Health Checks in Adults for Reducing Disease-Related Morbidity and Mortality

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Clinical Question

Do general health checks in adults reduce illness and death?

Evidence-Based Answer

General health check visits have no benefit on cardiovascular morbidity or on total, cardiovascular, or cancer-related mortality. There is also no evidence that they cause patient harm.[1] (Strength of Recommendation: A, based on consistent, good-quality patient-oriented evidence.)

Practice Pointers

General health checks for adults 18 to 64 years of age are designed to identify patients at risk of certain diseases. The goal is early detection and prevention of associated adverse outcomes, although with screening there is always the risk of overdiagnosis. This Cochrane review was designed to evaluate the morbidity and mortality benefits and risks associated with general health checks.

This review involved 15 trials that evaluated outcomes for 251,891 patients.[1] Studies included interventions such as screening for more than one disease (or risk factor) or a lifestyle intervention in more than one organ system, performed by any health care professional. In each of the studies, the control consisted of either no screenings or lifestyle interventions. Five of the study settings were in general practice, nine were in medical/research centers, and one was in the workplace. Trials were excluded if participants were 65 years and older, or if they included participants with known diseases or risk factors. Overall, the trials were judged to be at low risk of selection and allocation bias; some studies were judged to have moderate to high risk of attrition bias and outcome detection. Harms of the intervention were not reported but potentially include worry, excessive follow-up testing, and harm from subsequent treatment.

Several different outcomes of general health checks were reported; 11 trials with 233,298 participants evaluated mortality, and the authors found no significant difference between the control and intervention groups. When the authors evaluated the impact of general health checks on cancer-related mortality, they found eight trials that demonstrated no benefit vs. control. The authors could also find no demonstrable difference in cardiovascular mortality (studied in nine trials, with varying definitions, including coronary artery disease or ischemic heart disease plus stroke) between patients undergoing general health checks and those in control groups. Further data analysis demonstrated no difference between patients evaluated with health checks and those who were not with regard to the outcomes of fatal/nonfatal ischemic heart disease (four trials) and combined fatal/nonfatal stroke (three trials).

It is reasonable to conclude that inviting an unselected population for general health checks does not reduce illness or death. Potential reasons for finding no benefit with the studied outcomes include the possibility that people who respond to an invitation for a general health check may be more health conscious at baseline, as well as the likelihood that physicians often incorporate screening into office visits for other reasons (i.e., ordering cholesterol screening for an at-risk patient who presents with infectious symptoms).

Although no U.S. guidelines currently recommend a general health check, the U.K.'s National

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CME **This clinical content** conforms to AAFP criteria for continuing medical education (CME). See CME Quiz on page 665.

SUMMARY TABLE

General Health Checks in Adults for Reducing Disease-Related Morbidity and Mortality

	Illustrative comparative risks				
Outcomes	Assumed risk without health checks	Corresponding risk with health checks (95% CI)	Relative risk (95% CI)	Participants (studies)	Quality of evidence
Overall mortality Follow-up: 4 to 30 years	68 per 1,000	68 per 1,000 (66 to 70)	1.00 (0.97 to 1.03)	233,298 (11)	High
Cancer-related mortality Follow-up: 4 to 22 years	26 per 1,000	26 per 1,000 (24 to 29)	1.01 (0.92 to 1.12)	139,290 (8)	High
Cardiovascular mortality Follow-up: 4 to 30 years	32 per 1,000	34 per 1,000 (30 to 37)	1.05 (0.94 to 1.16)	170,227 (9)	Moderate
Fatal and nonfatal ischemic heart disease Follow-up: 4 to 30 years	66 per 1,000	65 per 1,000 (62 to 68)	0.98 (0.94 to 1.03)	164,881 (4)	High
Fatal and nonfatal stroke Follow-up: 4 to 30 years	29 per 1,000	30 per 1,000 (28 to 34)	1.05 (0.95 to 1.17)	107,421 (3)	Moderate

Health Service recommends a health check in 40- to 74-year-olds to prevent heart disease, stroke, type 2 diabetes mellitus, and kidney disease, and to raise awareness of dementia.[2] Medicare patients in the United States are covered for an annual wellness visit, which is a visit to develop or update a personalized prevention plan and to perform a health risk assessment.[3] Physicians should continue to use all opportunities to address disease and risk factor screening and education.

The practice recommendations in this activity are available at http://www.cochrane.org/CD009009.

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Combined Oral Contraceptives for Heavy Menstrual Bleeding

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Clinical Question

Are combined oral contraceptives effective in decreasing menorrhagia?

Evidence-Based Answer

Combined oral contraceptives decrease the number of women reporting menorrhagia over six months compared with placebo (absolute risk reduction [ARR] = 36.7%; number needed to treat [NNT] = 2.7). The levonorgestrel-releasing intrauterine system (Mirena) reduces the number of women with heavy menstrual bleeding (based on a score of less than 100 on the Pictorial Blood Loss Assessment Chart) when compared with combined oral contraceptives.[1] (Strength of Recommendation: B, based on inconsistent or limited-quality patient-oriented evidence.)

Practice Pointers

Menorrhagia is excessive blood loss that affects women's quality of life and can lead to anemia. The overall prevalence of menorrhagia in women of reproductive age is 30%, and these patients represent 30% of gynecologic referrals in the United States.[1,2] Medical treatments include oral contraceptives,[3,4] nonsteroidal anti-inflammatory drugs (NSAIDs),[5] and antifibrinolytics.[6] The authors of this Cochrane review aimed to determine the effectiveness of combined oral contraceptives for menorrhagia in women.

This Cochrane review included eight randomized controlled trials and 805 reproductive-aged women.[1] The follow-up time ranged from one to 12 months. The trials compared the effectiveness of combined oral contraceptives with placebo or other medical treatments with regard to menstrual bleeding as determined by patient report, women's satisfaction based on a validated questionnaire, adverse effects, and hemoglobin levels.

In two trials with 421 patients, combined oral contraceptives reduced menorrhagia compared with placebo (ARR = 36.7%; 95% CI, 28% to 44%; NNT = 2.7; 95% CI, 2.2 to 3.6). Patients who took combined oral contraceptives also reported improved quality of life as measured using the Work Productivity and Activity Impairment Questionnaire: General Health version 2.0 (366 patients; data could not be pooled but combined oral contraceptives were consistently better than placebo at improving scores from baseline). Finally, patients who took combined oral contraceptives had improved hemoglobin levels (data could not be pooled but the results were consistent). Some minor but clinically significant adverse effects, particularly breast pain, were reported with use of combined oral contraceptives. It was unclear if this resulted in cessation of therapy.

Two small trials used a Pictorial Blood Loss Assessment Chart score of less than 100 as a parameter to determine the success of treatment when comparing the levonorgestrel-releasing intrauterine system with combined oral contraceptives. On this scale, the levonorgestrel-releasing intrauterine system was more effective than combined oral contraceptives at reducing menstrual blood loss (ARR = 28.9%; 95% CI, 11% to 50%; NNT = 3; 95% CI, 2 to 9). It was unclear to the Cochrane authors if there was any difference in hemoglobin level, quality of life, or adverse effects between the groups using combined oral contraceptives and the levonorgestrel-releasing intrauterine system. In two other small trials that also examined the outcome of menstrual blood loss using a Pictorial Blood Loss Assessment Chart score of less than 100, no difference was demonstrated between combined oral contraceptives and the contraceptive vaginal ring; however, patients treated with combined oral contraceptives had more nausea (number needed to harm = 4; 95% CI, 1 to 5). Additional trials that compared combined oral contraceptives with NSAIDs or the contraceptive vaginal ring with progestogens (norethindrone, 15 mg daily for days 5 through 26 of the menstrual cycle) were too small to draw any conclusion.

The trials were generally small, with only three trials including more than 100 participants. The quality of evidence was moderate in the comparison of combined oral contraceptives vs. placebo, and either low or very low in other comparisons because of discrepant data and limited numbers of participants. Large, well-designed trials of combined oral contraceptives vs. other treatments and comparisons among different types of contraceptives are needed to reach more robust conclusions.

The National Institute for Health and Care Excellence clinical guidelines recommend the levonorgestrel-releasing intrauterine system as a first-line treatment for menorrhagia. Other recommended options in the guidelines include combined oral contraceptives, cyclic oral progestogens, NSAIDs, and antifibrinolytics.[4] Ultimately, the choice of medication depends on a woman's preference and whether she desires contraception.

The practice recommendations in this activity are available at http://www.cochrane.org/CD000154.

Editor's Note: The absolute risk reduction and numbers needed to treat reported in this Cochrane for Clinicians were calculated by the authors based on raw data provided in the original Cochrane review.

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