CLINICAL INQUIRIES

From the Family Practice Inquiries Network

Are breast self-exams or clinical exams effective for screening breast cancer?

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EVIDENCE-BASED ANSWER

Breast self-examination has little or no impact on breast cancer mortality and cannot be recommended for cancer screening (strength of recommendation [SOR]: **A**, based on a systematic review of high-quality randomized, controlled trials [RCTs]). Clinical breast examination is an important means of averting some deaths from breast cancer, but demands careful attention to technique and thoroughness (SOR: **B**, extrapolating from a high-quality RCT).

CLINICAL COMMENTARY

We might better serve our patients by improving our examination skills than by urging self-exams

We should inform women who choose to practice breast self-examination that they run a higher risk of having a breast biopsy that does not reveal a cancer and that it is not known whether self-examination reduces a woman's chance of dying from breast cancer.[1] Mammography is neither perfectly sensitive nor universally available, and many women detect breast cancer themselves; it remains important for women to know how their breasts look and feel in order to recognize and report any anomalies. But we might better serve our patients by improving our clinical breast examination skills than by urging them to perform regular self-exams; clinicians who spend 3 minutes per breast and use proper technique (vertical strip search pattern, thoroughness, varying palpation pressure, 3 fingers, circular motion, finger pads) have significantly better sensitivity and specificity than those who do not.[2]

Evidence summary

Breast cancer is the second leading cause of cancer death among American women; 1 in 8 women will be diagnosed with breast cancer in her lifetime, and 1 in 30 will die of it.[3] Breast cancer screening and mammography have become almost synonymous. But physical examinations by clinicians or women themselves remain important methods of screening to consider.

Breast self-examination is appealing as a patient-centered, inexpensive, non-invasive procedure that empowers women and is universally available. However, a recent Cochrane review found no evidence of benefit from self-screening.

Two large RCTs, conducted in St Petersburg, Russia (122,471 women) and Shanghai, China (266,064 women), were found. Both studies used cluster randomization (by worksite) and involved large numbers of women who were meticulously trained in proper breast

FAST TRACK

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self-examination technique and had numerous reinforcement sessions. Study compliance and follow-up were excellent. Outcomes assessment was explicitly blinded in the Shanghai study. Neither trial demonstrated a reduction in breast cancer mortality or improvement in the number or stage of cancers detected during 9 to 11 years of follow-up, but there is evidence for harm: a nearly 2-fold increase in false-positive results, physician visits, and biopsies for benign disease.[4]

No trials comparing screening clinical breast examinations alone to no screening have been reported, but good indirect evidence of efficacy comes from the results of the Canadian National Breast Screening Study-2 (CNBSS-2).[5] A total of 39,405 women aged 50 to 59 years were randomized to screening with clinical exams plus mammography or clinical exams alone. Other large RCTs have shown a consistent benefit to mammography screening for women of this age (in-depth independent reviews of recent criticism of the trials have concluded that their flaws do not negate mammography's efficacy in reducing breast cancer mortality).[3,6] The CNBSS-2 trial showed no mortality advantage when mammography was added to an annual, standardized 10- to 15-minute breast examination, implying that careful, detailed, annual clinical breast examinations may be as effective as a mammography screening program.[3]

Recommendations from others

The US Preventive Services Task Force found insufficient evidence to recommend for or against routine clinical exams alone to screen for breast cancer, or to recommend for or against teaching or performing routine breast self-examination.[3] The Canadian Task Force on Preventive Health Services recommends against teaching self-examination to women aged 40 to 69 years due to "fair evidence of no benefit and good evidence of harm."[7,8]

The American Cancer Society continues to recommend periodic clinical exams,[6] and women who choose to do self-examination should receive instruction and have their technique reviewed during periodic health examinations; it is acceptable for women to choose not to do self-examinations. The American Academy of Family Physicians concludes that the evidence is insufficient to recommend for or against breast self-examination.[9] The American College of Obstetricians and Gynecologists recommends both.[10]

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