Routinely Teaching Breast Self-Examination is Dead. What Does This Mean?

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Physical examination of the breast is not a single test. Among clinicians (where it is termed “clinical breast examination” or CBE), it has various degrees of accuracy, depending on the clinician and his or her technique (1). Among women (where it is termed “breast self-exam” or BSE), it is sometimes an accurate test, but often it is not (2,3). In either case, physical examination of the breast is a difficult examination to learn to do well, especially when searching for the subtle changes that can signal early breast cancer (2,4–9).

Physical examination of the breast is a skill taught to the fingers; it is sometimes confused with the knowledge of the clinical significance of a lump in the breast. One can have little skill at detecting slight asymmetrical thickening in the breast yet understand that, should a breast lump be detected in the usual course of bathing or dressing (i.e., without a systematic search plan), it is potentially serious and should be clinically evaluated.

One of the striking changes in the presentation of breast cancer in the United States over the past 25 years is the reduction in the size of lumps discovered by women themselves. Large breast lumps are much less common now than before. Although it is not clear that the practice of BSE has improved during this time, it is clear that women have a greater appreciation (call it “awareness”) now than they did before about the importance of a lump of any size. It may be that having this knowledge rather than having BSE skill has reduced the size of detected breast lumps. Whether this reduction in the size of women-detected breast lumps has contributed to the recent reduction in breast cancer mortality is uncertain (10).

An important study in this issue of the Journal concerns teaching women to do BSE in a setting with no other mode of breast cancer screening (11). The question asked by Thomas et al. (11) in the Shanghai trial was whether teaching BSE reduces mortality from breast cancer compared with no screening at all. A more difficult challenge for BSE teaching would have been to ask whether it adds additional mortality reduction to other forms of screening, such as mammography or CBE. The Shanghai trial used the most sensitive research design to detect a true mortality benefit from teaching BSE.

The Shanghai trial is important because it is the highest quality evidence we have about the effectiveness of teaching BSE. Recent reviews have shown that our previous evidence has come primarily from observational designs, with mixed results (11–13). The Shanghai trial, on the other hand, was a large (N = 266,064), well-conducted, randomized controlled trial (11). It involved an intensive intervention (including regular teaching both in groups and individually, with periodic reminders and reinforcement, and achievement of high rates of attendance at training sessions with little contamination), a well-designed control group, high follow-up rates, and well-implemented outcome assessment (including standardized breast cancer and death registries, and pathology review).

The results of the Shanghai trial (11) will, however, be disappointing for many people. After 10 to 11 years, there was no difference in breast cancer mortality between BSE instruction and control groups; indeed, women in the BSE group had more breast biopsies and diagnosed benign breast lesions than women in the control group. There was little evidence that cancers were detected at an earlier stage in the BSE instruction group. Compared with women in the control group, women in the instruction group demonstrated greater proficiency in BSE practice, although the absolute level of proficiency achieved was only moderate.

Teaching BSE seems like a good idea: it sounds inexpensive, simple, and potentially applicable to people without access to mammography. It allows women to take charge of their own health and teaches them about their bodies. But the evidence is increasingly clear and difficult to ignore: BSE is more expensive than it first appears (14), it is difficult to learn to do well (2,5–7), and it is difficult to continue to do long-term. Most importantly, at least for the great majority of women whose BSE practice is not optimal, it does not reduce the risk of dying of breast cancer.

The results from the Shanghai trial do not mean, however, that all physical examinations of the breast are ineffective. There is evidence that excellent physical examination practice, whether CBE or BSE, may indeed be effective (15). Not only is there case–control evidence that excellent BSE may reduce mortality (4), there is also randomized, controlled trial evidence that excellent CBE done by trained nurse-examiners may be as effective as mammography in reducing breast cancer mortality (16). However, the logistical and financial challenges of teaching all women to do and maintain excellent BSE makes this test ineffective as a population strategy for reducing breast cancer mortality.

The results of the Shanghai Trial (11) do not mean that we can forget about women’s awareness of the importance of seeking clinical evaluation for incidentally discovered breast lumps. Although this awareness may have negative effects (in terms of anxiety and heightened risk perceptions), among its positive effects may be the reduction in the stage at presentation of many self-detected breast cancers. Women may also feel empowered and more in control with this knowledge.

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Thus, the Shanghai BSE Trial (11) should lead us to change our clinical practice. Until we receive further evidence (one trial has not yet reported results) (17), North American physicians can stop spending time routinely teaching women’s fingers to do BSE. In its place, physicians should find ways to educate women about the cardinal symptom of early breast cancer, a painless lump in the breast, and to spend a little longer on the CBE. Routinely teaching BSE may be dead, but giving women information—and continuing research on the effectiveness of excellent physical examination—should live on.

REFERENCES


NOTES

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