

# The Value of Breast Self-Examination: Meta-Analysis of the Research Literature

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**Purpose/Objectives:** To review 20 studies examining the relationship between breast self-examination (BSE) behaviors, BSE education, the stage of breast cancer at diagnosis, and the mortality or survival rates for breast cancer.

**Data Sources:** 20 studies from medical and nursing journals.

**Data Synthesis:** In the articles reviewed, the relationship between the value of BSE and BSE behaviors and education (defined as the stage of breast cancer at diagnosis and the mortality or survival rates for breast cancer) was unclear. Methodologic issues such as research design, confounding variables, operational definitions, and sampling were inconsistent and weak.

**Conclusions:** Meta-analysis suggests that the healthcare research community should state BSE research findings in terms of recommendations for further studies. Until a large number of prospective, randomized, and controlled studies of the relationship between BSE behaviors and education and the value of BSE are conducted, researchers will be unable to make a definitive statement regarding whether BSE provides advantages in detecting breast cancer at an earlier stage, reducing mortality, and increasing survival rates for women with breast cancer.

**Implications for Nursing Practice:** Nurse researchers play a key role in conveying the methodologic issues involved in BSE research to the healthcare community and are encouraged to publish their studies in medical journals. When the relationship between the value of BSE and BSE behaviors and education can be confirmed systematically, the healthcare community will recognize and use nurses' research findings to better inform women about breast health.

With the fast pace of modernization and changes in lifestyle, the pattern of disease has been transformed from primarily acute conditions to chronic illnesses such as heart disease, cancer, liver cirrhosis, diabetes, and hypertension. Cancer is expected to be the leading cause of death in the United States in the future, and among 19 cancer diseases, breast cancer is the fastest growing in incidence (Evans, 1996). The incidence of breast cancer in American women has increased steadily to one out of eight women based on lifetime risk (American Cancer Society [ACS], 2001).

An estimated 192,200 new cases of breast cancer will be diagnosed in U.S. women in 2001 (ACS, 2001). One explanation for an increase in the number of breast cancer cases in U.S. women may reflect increased breast cancer screening behaviors, such as performing breast self-examination (BSE), clinical breast examination (CBE), or mammography screening.

Approximately a 4% increase was seen in the annual mortality rate of breast cancer among U.S. women during the 1980s (ACS, 1999). In the late 1990s, the mortality rate from breast cancer among white women started to decline (Berkeley Well-

## Key Points . . .

- ▶ The bulk of research on breast self-examination (BSE) has focused on techniques and educational strategies.
- ▶ The impact of BSE on stage of cancer at diagnosis and survival remains unclear.
- ▶ Nursing's focus regarding BSE may differ from medicine's focus.
- ▶ Structured BSE education must be combined with prospective data-gathering on stage at diagnosis and survival in order to study BSE comprehensively.

ness Letter, 1995; Greenlee, Hill-Harmon, Murray, & Thun, 2001). Almost 43,700 women died of breast cancer in the United States in 1999 (ACS, 1999), but only 40,200 women are expected to die in 2001 (ACS, 2001).

A decrease in breast cancer mortality may indicate that the improved survival rate of breast cancer in U.S. women is a result of having identified breast cancer in its early stages. For instance, the survival rate for localized breast cancer (stage I) is 98%; however, if breast cancer already has spread regionally (stage IIb) at the time of diagnosis, the five-year survival rate decreases to 76% and, for distant metastasis (stage IV), to 16% (ACS, 2001).

## Early Detection

A decrease in mortality from breast cancer indicates the importance of detection of breast cancer in its early stages. One way to detect breast cancer early is to regularly practice comprehensive breast cancer screening behaviors: BSE, CBE, and mammography screening. According to ACS (2001), U.S. women aged 20 or older should practice BSE every month (ACS, 2001). CBE also should begin at age 20 and be repeated every three years from ages 20–39 and every year over age 40 (ACS, 2001). Mammography screening for U.S. women should begin at age 40 and be repeated annually (Greenlee et al., 2001).

However, mammography screening seldom is performed more than once a year because of the potential harm of cumulative radiation. In particular, younger women who have dense breast tissue tend to absorb more exposure radiation than older women, who often have fatty breast tissues (Cady et al., 1998). Because breast lumps might develop during the period between

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