

The Effect of Breast Self Exams and Their Ability to Decrease Mortality Rates

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ABSTRACT

The purpose of this study was to investigate breast self-exams (BSE) and its effectiveness in decreasing mortality rates among women. This has been a contentious issue that continues to emerge for the female population. There has been a growing debate that BSE does not discover breast cancers and therefore this process itself does not decrease mortality rates. Components of the study suggested that BSE is more likely to be improperly performed by females which tend to bring about unnecessary anxiety and frustration and as a result should not be considered an early detection method for breast cancer. However, the controversy still remains because some women believe that BSE is beneficial in decreasing mortality rates because it provides the opportunity for women to get familiar with their breasts in search for any abnormalities. For that reason BSE should be not be ruled out. Data from previous case studies confirmed opposing viewpoints of the matter. The triangulation method was chosen as the ideal method for this study because the data researched was concluded by both an in-depth literature review analysis and two separate interviews with health professionals that have extensive knowledge about breast cancer.

Introduction

Breast cancer is the second leading cause of death, after lung cancer, among women in the United States. Breast cancer incidences have been increasing since the 1980s and continues to be a feared disease for women in the United States. Based on rates from 2005-2007, 12.15% of women born in the U. S. today will be diagnosed with breast cancer at some time during their lifetime (Breast cancer modalities,n.d). Because 1 in 8 (12%) women will contract breast cancer, it is essential for women to take the necessary steps to detect it early. What impact does the advised method have? Females are advised to engage in early detection practices of breast cancer. The object of engaging in the practice of preventative measures is to find cancers before they start to cause symptoms and spread. Those early detection measures consist of breast self-exams (BSE), clinical-breast- exams, and mammography. Clinical breast exams are a physical

examination performed by a health professional. Mammography is a type of X-ray imaging system used to examine breast tissue. Breast self-exams are usually performed by the woman herself, to search for abnormalities in each breast; but are breast self-exams an effective method of detecting breast cancers to decrease the mortality rates among women? For the purpose of this paper, we will discuss the following topics:

- Historical perspectives of breast cancer
- Breast self-examinations both past and present
- The effectiveness of BSE
- Interviews from medical professionals concerning BSE

Literature Review

History of Breast Cancer

Breast cancer may be the oldest disease known to women. The infamous disease can be traced back 3,500 years ago in Egypt. According to Olson (2002), the author of *Bathsheba's Breast: Women, Cancer and History*, Egyptians of the New Kingdom were the first to struggle with the disease. He noted the methods in which breast cancer was dealt with by physicians and centers his analogy on the perceptions of physicians regarding the disease during that era.

Physicians in those days thought that the only way to alleviate breast cancer was by removing the entire breast. Nineteenth century physicians knew that severing the breast was a temporary fix and that more than likely the breast tumors would return because of the unknown fundamental origin of breast cancer. Hippocrates, also known as the father of medicine, believed that cancer was the result of an eruption of black bile. Giving the disease the name *ōKarakinosō* meaning crab, Hippocrates thought that cancer tumors resembled crabs because they appeared to have

tentacles like that of crab legs, reaching out and grasping normal tissue making them malignant (p. 12).

Ancient remedies: Humoral Theories

Galen, known as the ōdeanö of Greek Medicine, prescribed pharmaceutical agents in an attempt to remedy breast tumors. Such agents included: Opium, rhubarb, castor oil, olive oil, barley water, licorice, turpentine, ammonium chloride, sulphur, zinc oxide, copper sulphate, valerian, cinnamon and a variety of salves and gums. Galen's most preferred remedy was the ōLancetö which was to drain blood and excess fluids so that the ōinner heatö could stimulate stability. He also prescribed expectorants to induce vomiting, laxatives to clear bowels, and bloodletting all which he believed would relieve vascular pressures and restore health (p.13).

Nineteenth Century America's Perception on Breast Cancer; Fighting Evil with Evil

In the early part of the 1800s in American society, cancer of the breast as it was referred to in those days, was not considered to be a visible or dangerous disease. Some physicians thought that the development of breast cancer originated from the following: tight stays, heredity disposition and ōbarrennessö (Aronowitz, 2007).

William Buchan, an American editor of *Domestic Medicine*, a popular health book in 1785, noted that tumors or lumps often appeared after menstrual flow stopped. Another contributor to cancer of the breast during the 19th century was thought to be fear itself. Aronowitz (2007) noted that Scottish surgeon, John Rodman, argued that ōfear of cancer was the most potent etiological considerationö (p. 23). Rodman not only believed that fear was the cause of cancer of the breast, but also believed it was a vector through which cancer spread between women. In the 19th century, cancer was not yet known to be a disease of radical cells, but rather

it was thought that cancer had seeds, ferments or roots that were invisible to surgeons that could develop new diseases even after tumors were removed (Aronowitz, 2007).

Not much surfaced in regards to methods of curing breast cancer in the 1800s. Physicians in the 19th century still believed the only way to remedy breast cancers was by amputating the entire breast; however, surgery was thought of as an evil feat because the operation was usually performed with a knife and without anesthesia. This reluctance led women to fear cancer and they often did not receive medical attention until the lump in their breast was about the size of a bird's egg. Nearly all women who contracted breast cancer eventually died from the disease (Aronowitz, 2007).

Breast self-examination: Past and Present

According to the American Cancer Society (2011) BSE is a way for women to check their breasts for lumps or suspicious changes. Women over the age 20 are advised to do BSE regularly, usually at a time other than the days before, during, or right after menstrual periods.

The Beginning of Breast Examinations

After reviewing the literature, the origination of BSE was unable to be determined. The earliest indication of BSE was found through the American Cancer Society. In the 1930s, cancer activists encouraged the ideology of women to examine their own breast on a regular basis in search of suspicious lumps. Self-breast exams (SBE), as they were referred to in the literature, were thought of as awkward because they did not involve any technology and were often promoted as a specific and technical detection procedure. Because of lack of technical use, this procedure was reflected as more of a social change than a biomedical or a technical progress

(Aronowitz, 2007). This phenomenon of self-breast exams contributed to the notion that individuals should bear the responsibility for detecting breast cancer. On the other hand, SBE was also thought of as welcoming to clinicians because it kept the privacy of women by not having to involve others, especially male physicians.

According to Aronowitz (2007), in 1977 Phillip Strax, one of the earliest advocates of screening mammography, noted that despite the literature and films on how to perform a self-breast exam, there was little net result of any impact concerning breast cancer. The Gallup poll indicated only a small percentage of women were actually exposed to both the literature and films. Most women admitted not understanding this routine, feeling uncomfortable about examining their breasts themselves, anxious about the study itself or just simply exhibited the preference of not being bothered.

Research studies: Effectiveness of breast self-examination

In 1977, a study by Stillman (1977) investigated the nature of women's health beliefs about breast cancer and breast self-exams. A questionnaire was given to 122 women. Ninety-seven percent scored high in perceived benefits of BSE's in decreasing the threat of breast cancer. In the category of perceived susceptibility to breast cancer, 87% of the women (106) thought that they were vulnerable to the disease. Forty percent of the women practiced BSE on a monthly basis but 20% who had high beliefs that they would develop breast cancer did not practice BSE. The majority of the women who did practice BSE admitted their uncertainty of accurately detecting abnormalities. Another group of 20 women that did have a history of breast lumps or cancer surgery, however, did have higher susceptibility beliefs, a higher rate of

practicing BSE and were confident in their ability to detect abnormalities in the breast (Stillman, 1977).

Even though BSE seemed to give women a sense of empowerment the question still remained: Are breast self-examinations a useful method in detecting breast cancers that will decrease mortality rates among women? According to a research study article, Surveillance Epidemiology and end results (2010) only well performed randomized clinical trial of BSE to be completed took place in Shanghai. In this clinical trial, 266,064 women were given instructions regarding BSE reinforcement and encouragement, or instructions on how to prevent lower back pain.

After a 10-11 year follow-up, 135 breast cancer deaths occurred in the group that received information regarding prevention of lower back pain, 131 breast cancer deaths occurred in the group that was given instructions regarding BSE. Although the numbers of breast cancers deaths between the two groups were not significant and virtually equal, the group that received information instructions on BSE reported having more biopsies and more benign lesions as opposed to the group that received instructions concerning lower back pain.

Love (2004) explains that BSE seems to alienate women from their breast as opposed to developing a comfortable state with one's own breast. Her recommendation of BSE is that although they have been advocated to women throughout decades to examine the breast at the same time each month in speculation of lumps, she argues that instead of only once a month women should check their breasts at different times of the month to get to know how their breasts feel at all times. Love notes she feels that her method would reinforce self-knowledge of one's own breasts and in addition, eliminate repetitiveness of having to check the breast on a monthly schedule (p. 37).

The American Cancer Society recommends that women starting at the age of 20 perform monthly BSE to become familiar with their breasts and to understand what is normal so if something feels different, she can notify a doctor (ACS, 2010). Dr. Love's perceptions of formal BSE that are regularly taught to women are designed for women to hunt for negative results concerning her breasts. Love states that breast self-examination is a destructive method to define breast. However, Love acknowledged that 80 % of cancers not found on a mammography are found by the woman herself. The controversy surrounding this scenario is that the women did not actually perform breast self-examination based off the methods and recommendations that have been taught by the American Cancer Society (p. 38).

Research Study: BSE as Early Detection for Breast Cancer

The best way to prevent people from dying of breast cancer is by promoting early detection. Early detection is defined by finding cancers that are already present. According to Love (2004) "That's hardly prevention; Prevention indicates to stop the cancer before they happen in the first place" (p.241). But how beneficial are BSE efforts to stop cancer before it happens? Secginli and Nahcivan reported the outcome of the effectiveness of BSE in a case study that was performed in their 2011 article. That study showcased the impact of increased proficiency and frequency of BSE 197 women who participated in the study. Ninety-seven of the women were in the intervention group and 93 were in the control group. Forty-four percent reported being in excellent health and 56% reported being in fair health. There were no significant differences between participant's characteristics at baseline among the two groups (age, marital status, and years of education, employment status, income level, having children or health insurance coverage).

The women in the intervention group were compared to the women in the control group on performing BSEs at a three month and a six month follow-up. There was a significant difference among the two groups in both proficiency and performance of BSE. At the three month follow-up, initiation to perform BSEs had increased by 36.1% for women in the intervention group whereas women in the control group had increased initiation by 11.8%.

At the six month follow-up 26.8 % of women in the intervention group and 9.7% of women the control group performed BSEs. At the three month benchmark after the program, women in the intervention group were four times more likely to perform regular BSEs than the women in the control group; at the six month benchmark women in the intervention group were three times more likely to perform regular BSE than the women in the control group. The overall outcome of the study was successful in increasing BSE rates among women and in their enhanced ability to find lumps (2011).

Methodology

The purpose for this research was to determine if BSE is an effective method for early detection of breast cancer and in decreasing mortality rates among women. Because the scope of this research only focused on BSE, mammography and clinical breast exams were not discussed throughout the literature and interview analysis. The triangulation method was chosen as the ideal method for this study because the data researched was concluded by both an in-depth literature review analysis and two separate interviews with health professionals that have extensive knowledge about breast cancer. Based on the literature review, it was determined that additional information from current health professionals, who are experts in the field of breast cancer, was needed for a more updated analysis regarding BSE.

Participants: Interview with Health Professionals

Two health professionals were interviewed using questions concerning recommendations for BSE. One health professional was from the American Cancer Society of Duluth, Minnesota. The second interviewee is a cancer navigator from Essentia Health in Duluth, Minnesota. A face to face interview was conducted with both professionals. The questions that were asked of the health professionals were:

1. What are the current recommendations for performing breast-self exams?
2. How would women know the difference between normal breast tissues versus abnormalities when performing a breast-self exam?
3. When women are performing breast-self exams, are they always looking for an abnormal nodule, lump or are there other tissue forms that should be assessed as an abnormality when screening?
4. What is the standard preference on how to perform an adequate breast-self exam? Has this standard changed over the years?

(See Appendix A)

Responses:

In my interview with Marjorie Johnson, a health professional with the American Cancer Society (ACS), Duluth Minnesota, she stated that BSE are continuing to be recommended but as an option for women today. Breast awareness is more encouraged and is the main focal point of BSE. Johnson stated that the process of how to effectively perform BSE has changed over recent years in that it now consists of a different method on how to check for lumps about the breast. In previous years, BSE was taught to women by having a woman lie down with one arm above the

head; the woman would then use her opposite hand to move it around in a circular motion feeling for lumps in the breast as well as the armpits once a month usually after a woman's menstrual cycle. BSE was one time originally done in the shower but now the recommendations have included some new techniques. The new recommendations are:

- Recommending a woman to have a visual (mirror) to compare the breasts. The woman should look for symmetrical similarities among each breast. In addition, women should also look for redness or swelling about the breast.
- Next, women should use their three middle fingers and use three levels of pressure in circular motion.
- Women need to feel for hard lumps that are not painful because the lump is more likely to cancerous. Women are also to look for any swelling and symmetry when performing BSE.
- The American Cancer Society also recommends that these techniques be done during other times of the month, not just after a woman's menstrual cycle.
- BSE is one tool that can detect a change in the breast. If a change is detected, the woman should notify a provider.

Johnson also stated BSE is not recommended for all women due to the fact that some women have more density to their breasts causing difficulty for them to be able to feel for lumps or changes about the breast. In such cases, Magnetic Imaging Resonance (MRI) is recommended.

An interesting statement made by Johnson during the interview was that "two doctors acknowledged that 40% of female breast lumps are found by their partners" (Johnson, 2011).

The second interview was conducted with Toby Sillanpa, a cancer patient navigator, with Essentia Health in Duluth, Minnesota. She stated, "There is no universal recommendation that is followed by everyone when it comes to BSE" (Sillanpa, 2011). She noted that even though the ACS may recommend one thing, it is ultimately up to the doctors as to what their recommendations are for their patients. She agrees that women should perform BSE to get to know their own breasts and to be aware of changes that may be unusual, but as far as BSE predicting cancers, she agreed that only a biopsy can really detect cancerous lumps. Sillanpa stated that she is also in agreement with the recommendations given by the ACS that all women should perform BSE. One answer to the most pertinent question that Sillanpa acknowledged during the interview is that BSE does not lower mortality rates among women (2011).

Discussion and Conclusion

Breast cancer may be the oldest and the most infamous disease to occur in the female population. Physicians have struggled with breast cancer for thousands of years in search of its origins, ways to prevent it, and the most efficient ways of early detection of the disease. Various methods to effectively detect breast cancer have continued to surface throughout the years including current BSE recommendations. There still is no definite technique for the detection of breast cancer and currently women have no assurance of a 100% effective way of early detection. It is apparent that discrepancies women encounter surrounding BSE, and early detection continue to be of concern.

After reviewing the breast cancer detection literature, exploring historical data concerning breast cancer, and comparing the modern day perspectives concerning BSE, it is assumed that BSE as an early detection method for breast cancer may actually depend on the

individual's discretion. Seventy percent of the articles proposed BSE was not an effective method for early detection; primarily because women are not properly taught what to feel for when performing the technique. According to Love (2010), women did not know what exactly they were looking for as far as tissue mass when it comes to BSE. Interestingly, Love also noted women are learning how to perform BSE from their gynecologist, but it has been stated that most gynecologists have not been formally trained on how to perform BSE (p.247).

In addition, the literature implied that some women who perform BSE are causing more harm than good to themselves by performing such a procedure because it is thought to be a waste of time. For example, one recent study found that women taught to do BSE did not reduce their chances of dying of breast cancer. In fact the study concluded that BSE might even cause more of a burden to women because of the anxiety and stress that some women experience. Additionally medical systems also accrue the expense for the increase in biopsies and tests performed to check for harmless lumps and bumps (Health.com, 2011).

However, 30% of the literature reviewed advocated for the need of BSE. For example, Nancy Binker, CEO of Susan G. Komen for the Cure, stated that despite the U.S. Preventive Services Task Force recommendations regarding BSE, one fact remains undisputed, screening saves lives (Binker, 2009). She is an avid supporter of BSE because both she and her sister, Susan G. Komen, were diagnosed with breast cancer in their early thirties. Nancy refers to her life being saved by early detection methods but unfortunately, her sister, Susan, who did not have the opportunity to engage in early detection, died. Nancy noted that BSE can contribute to self-awareness and could save lives regardless of the scrutiny this technique of early detection has been subjected to.

Twenty percent of the literature advocating BSE furthermore revealed that women in other countries were more adamant about performing BSE. The literature detailing the outcome and effectiveness of BSE in women from foreign countries showed that most of the women expressed self-efficacy and empowerment when they were introduced to the BSE method. It is important to note that women in those countries had little or no access to health care providers. After reviewing the literature and comparing opposing viewpoints concerning BSE, it is concluded that this controversial issue will continue to be a central concern for both women and health experts for years to come.

Implications

Being a member of the female population has inspired me to take in-depth analysis surrounding breast cancer prevention because it is one of the most feared diseases among women of all ages. Being an advocate for breast cancer awareness has prompted me to further investigate the scope of one of the early detection methods that women are generally advised to practice, BSE. Many women are encouraged to practice BSE under the notion that practicing the technique will help find breast cancers and they will stand a chance of being cured if abnormalities are discovered early in their breasts. In investigating the ideology of BSE, it has become apparent to me that BSE is a method that women should practice in efforts to become more aware of their breasts as opposed to being encumbered with the idea that BSE is a form of breast cancer detection. After researching and understanding that BSE does not detect breast cancers themselves, it is, however, a suggested measure for all women to practice in promoting women to become more attentive to their own breasts. I believe that because the disease is very prominent in the female population, every effort should be made to combat it.

The research encompasses some very pivotal points that have helped me internalize the seriousness of the disease, for example learning about the historical perception of breast cancer and the ancient remedies associated with it. In my belief, researching the history of breast cancer was very informative because it helped develop a concrete understanding of how early detection methods have derived and answer questions that many women are challenged with today. Some questions that may be of interests for further research concerning BSE are:

- Which medical profession (i.e. gynecologists, nurses, and surgeons) will be mandated to perform procedures involving breast health? Love stated that most gynecologists have not been formally trained on how to perform BSE (p.247).
- Will it be a standardized protocol for health professionals to be certified in breast health?
- What will advance technology contribute to BSE in the future?

Even though there is still no definite way to affirm BSE as an early detection method to decrease mortality rates regarding breast cancer, the research has demonstrated that there are still questions that need to be answered for future exploration of the involvement of BSE. Even though BSE is a controversial topic, as part of the health sector, I would advocate that most benefits outweigh the risks. BSE does not technically find breast cancers, but it is beneficial in numerous ways. It's convenient and cost effective, which for some people may be helpful if they lack access to health care. BSE does not harm women and it might actually catch early cancers if abnormalities are noticed early. In addition, it facilitates knowledge of one's own breasts so that individuals are aware of what is normal for them.

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Appendix A

1. What are the current recommendations for performing breast-self exams?
2. Has the standard instructions on how to perform breast-self exams changed over the years, and if so how?
3. How would women know the difference between normal breast tissues versus abnormalities when performing a breast-self exam?
4. When women are performing breast-self exams, are they always looking for an abnormal nodule, lump or are there other tissue forms that should be assessed as an abnormality when screening?
5. What is the standard preference on how to perform an adequate breast-self exam? Has this standard changed over the years?
6. Should all women perform breast-self exams? If yes why? If no why?
7. How do breast-self exams effectively help with decreasing breast cancer mortality among women?

Appendix B

References supporting or not supporting BSE

Author	Title	Support BSE	Does not support BSE
American cancer society	Breast cancer: Early detection	✓	
Binker, N	With breast screenings, every woman counts	✓	
Johnson, M.	Interview: Health professional with the American cancer society	✓	
Loves, S.	The breast and its development		✓
National cancer institute	Breast cancer screening modalities		✓
Secginili, S., &Nahcivan, N.O.	The effectiveness of a nurse-delivered breast health promotion program on breast cancer screening behaviors in non-adherent Turkish women: A randomized controlled trial	✓	
Sillianpa, T.	Interview: Health professional with Essentia Health	✓	
Stillman, M. J.	Women's health beliefs about breast cancer and breast self-examination		✓
Tamkins, T.	Breast self-exam controversy: Despite what you have heard it's still a good idea		✓