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Perceptions about breast cancer among African American women: do selected educational materials challenge them?

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Abstract

Despite the availability of factual information about breast cancer, there continues to be an abundance of misperceptions about the disease. This study, guided by the Patient/Provider/System Model for cancer screening, describes perceptions about breast cancer among African American women ($N = 179$) at primary care centers. Data were collected using the Breast Cancer Perceptions and Knowledge Survey and a demographic questionnaire. Breast cancer pamphlets available at the centers were evaluated (readability, extent they challenged misperceptions). The average age of the women was 34 years with an average educational level of 12 years. A number of misperceptions were prevalent. The majority viewed breast self-examination as a form of early detection and some viewed pain as an indicator of cancer. Pamphlets did not explicitly challenge the misperceptions and the SMOG reading level was high. Intervention studies are needed to identify the effective methods to challenge and correct misperceptions about breast cancer for these women.

Keywords: Breast cancer perceptions; African American women; Educational pamphlets; Health literacy

Breast cancer is the second most common cause of cancer incidence and the second most common cause of cancer death among women [1]. In 2004, approximately 215,990 new cases of invasive breast cancer and 55,700 cases of in situ breast cancer are expected to be diagnosed and approximately, 59,390 deaths expected from the disease [1]. African American women, those who are older, have less education, and lower incomes are more likely to present with advanced stages of breast cancer [1] and have a significantly lower 5-year cancer survival rate compared to Caucasian women [1]. Research suggests that African American women are less likely to participate in breast cancer screening and early detection programs [2–4]. The lack of screening, early detection, and effective breast cancer treatment within its localized stage is believed to influence these mortality rates.

Factors that influence a woman's decision to participate in breast cancer screening and subsequent treatment decisions are complex, multi-faceted, and include such things as access to care issues, fear, cancer fatalism, whether their provider encourages participation in screening, and their knowledge about the disease, to name a few [5,6]. Yet despite the availability of credible, factual information about cancer, there continues to be an abundance of misperceptions about the disease that may potentially influence a woman's decisions about breast cancer screening and treatment. Previous research that addressed these perceptions is limited but centers around common themes of perceived causes of cancer, efficacy of surgery, and when to seek care.

For example, previous findings suggest that some women believed a bump or hard knock, having "love bites" on the breast, and having big breasts increased the likelihood of developing breast cancer [7–11]. While the exact cause of breast cancer is not known, multiple factors have been identified that increase risk (Table 1) and factors such as injury to the breast or love bites on the breast have not been confirmed as causative factors for the disease.

Other findings suggested that some women also believed that having surgery for breast cancer exposed the cancer to air causing it to spread [1,8,11,12]. Some also believed that a lump in the breast that was not considered bothersome did not need to be evaluated by a physician [12] and/or if the lump was not painful, it was probably not cancerous

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Table 1
Factors that influence breast cancer risk

Factors that increase the relative risk for breast cancer in women	
Relative risk	
>4.0	Certain inherited genetic mutations for breast cancer Two or more first-degree relatives with breast cancer diagnosed at an early age Personal history of breast cancer Age (65+ vs. <65 years, although risk increases across all ages until age 80)
2.1–4.0	One first-degree relative with breast cancer Nodular densities on mammogram (>75% of breast volume) Atypical hyperplasia High-dose ionizing radiation to the chest Ovaries not surgically removed < age 40
–2.0	High socioeconomic status Urban residence Northern US residence
Reproductive factors	Early menarche (<2 years) Late menopause (≥55 years) No full-term pregnancies (for breast cancer diagnosed at age >40 years) Never breast fed a child
Other factors that affect Circulating hormones or genetic susceptibility	Postmenopausal obesity Alcohol consumption Recent hormone replacement therapy Recent oral contraceptives us Tall Personal history of cancer of endometrium, ovary, or colon Jewish heritage

Adapted, with permission from Hulka et al. (1995) and Kelsey et al (1993). Data source: reprinted from Breast Cancer Facts and Figures (34).

[13]. Still other women were less familiar with the fact that leakage from the nipple was a possible sign of breast cancer and that a high fat/low fruit and vegetable diet as well as a positive family history (especially first degree relatives) of the disease may increase their personal risk of breast cancer [10,14].

It is difficult to predict and/or identify with certainty, women who are more likely to report these types of perceptions about breast cancer. Some research suggested that women who had lower levels of formal education and lower annual income levels may be more likely to report these perceptions [7,10,12] and that these perceptions may be prevalent among women regardless of age or race/ethnicity [8,12]. Moreover, the potential role that culture and generational belief systems (geographic regions, linguistics, age, level of acculturation, racism, discrimination, and socioeconomic status, to name a few) play in the development of these perceptions should not be overlooked [15].

Nonetheless, few studies have addressed the prevalence of these types of perceptions about breast cancer among African American women or the extent that these perceptions influence their decision to participate in breast cancer screening. Further, it is unclear whether traditional educational strategies challenge and correct misperceptions that may be prevalent [15,16]. The current descriptive study is the first stage of a multi-phasic project that purposes to: (a) describe perceptions about breast cancer reported by African American women at three community based primary care centers in a Southern state; (b) evaluate the reading level of breast cancer pamphlets available in the waiting areas of these centers; (c) evaluate the extent that the breast cancer pamphlets address and/or challenge any misperceptions that the women reported; and (d) explore implications for research and practice. Findings from this study may be useful in proposing hypotheses for testing and as baseline data to develop culturally relevant, targeted interventions to address the women's perceptions about breast cancer and correct any misinformation.

1. Framework

This study is part of a larger project designed to test a Patient/Provider/System Theoretical Model (PPSTM) for cancer screening that explains the interactions of provider barriers, patient barriers, medical system barriers, and their potential influences on adherence to cancer screening guidelines for both patients and their providers (Fig. 1). This model is an amended version of the Powe Fatalism Model that was originally developed to explain the influence of patient barriers such as cancer fatalism and knowledge of colorectal cancer on participation in colorectal screening for rural elders [5,17]. Theoretically, provider barriers (knowledge of cancer screening guidelines) may directly influence the patient barriers (perceptions about breast cancer) and influence whether the provider performs or referrals patients for screening (provider outcome) and whether the patient actually participates in screening (patient outcome). Medical system barriers are believed to influence patient's perceptions of breast cancer and their participation in breast cancer screening (patient outcome). The constructs of the PPSTM that will be tested in this descriptive study (Fig. 1) are the potential patient barriers (perceptions of breast cancer) and potential medical system barriers (reading level of breast cancer pamphlets, extent that pamphlets challenge misinformation) at community based primary care centers.

2. Methods

This study used a quantitative, descriptive design and targeted African American women who attended three non-randomly selected federally funded community based primary care centers in a southern state. Federally funded community health centers (CHCs) provide comprehensive primary care services to over 8 million medically underserved patients in the United States. According to the U.S. Public Health Service (USPHS, 2003), these centers provide