BRIEF REPORT: ETIOLOGICAL ATTRIBUTIONS FOR BREAST CANCER AMONG HEALTHY AFRICAN AMERICAN AND EUROPEAN AMERICAN WOMEN

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SUMMARY
Anecdotal evidence suggests that African American women’s attributions about breast cancer may differ from European American women, but empirical studies are lacking. The present study examined attributions about breast cancer made by a sample of healthy African American and European American women. The sample included 197 women (75 African American, 122 European American), with a mean age of 39.2. Overall, women were most likely to attribute the development of breast cancer to genetics, ‘no one’, environmental poisons, diet, personal behavior and stress. European American women were more likely to attribute breast cancer to broadly external causes such as the environment, heredity and chance, while African American women were more likely to list immediate, interpersonal-level causes such as a blow to the breast, and personal behavior. Results highlight the need for attention to cultural processes in cancer prevention and control. Copyright © 2005 John Wiley & Sons, Ltd.

KEY WORDS: attributions for disease; etiological attributions for breast cancer; African-American breast cancer patients; breast cancer; cancer prevention and control

INTRODUCTION
Research has shown that individuals make a variety of cognitive representations of illness, to make sense of and respond to the onset of disease (Weinman et al., 1996). These representations include ideas about disease etiology (Weinman et al., 1996; Roesch and Weiner, 2001; Faller et al., 1995), as well as perceptions of the consequences of illness, and the possibility of controlling or curing the disease. Etiological attributions are a confluence of factors including direct experience of illness, illness in family members, friends, the media, and cultural beliefs (Rees et al., 2001). In addition, there is evidence that individuals from various cultural and ethnic groups make different types of attributions for illness etiology (Klonoff and Landrine, 1994; Landrine and Klonoff, 1994). For example, Murguia et al. (2000) argue that the Latino worldview includes complex beliefs about illness etiology, one of which is a belief that good and bad deeds are rewarded or punished by natural law. Potentially, knowledge about the attributions individuals make about illness could be used to tailor education and prevention efforts. However, illness representations about breast cancer among African American women have not been widely studied. Anecdotal evidence suggests that African American women’s attributions about breast cancer may differ from those made by European American women. For example, reported attributions include a blows or ‘love bites’ to the breast, chemicals in food, birth control pills, bras that are

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too tight, violence, and the stress of affairs of the heart and racism (Gregg and Curry, 1994; Mitchell Phillips et al., 1999; Moore, 2001; Price et al., 1992; Slenker Duke et al., 1994; Wardlow, 1996). Thus, the aims of the present study were to empirically examine differences in illness representation about breast cancer made by a sample of healthy African American and European American women. This pilot data could serve as a useful starting point in investigating determinants of health behavior practices that afford women opportunities for early detection of breast cancer.

METHOD

Participants

Participants were recruited by flyers and advertisements at three medical centers in New York City as part of a larger investigation of stress, behavior, and family histories of breast cancer. The advertisements invited women with different family histories of breast cancer to participate. The sample was comprised of 197 women (75 African American, 122 European American), with a mean age of 39.2 (S.D. = 9.7). Seventy-three percent had completed college, 36% were currently married, 46% earned at least $40,000 per year, and 36% had a family history of breast cancer.

Procedures and measures

Participants completed a self-report questionnaire comprised of the measures described below.

Demographics and medical history. Participants completed standard questions assessing demographics that included age, education, ethnicity, occupation, income, and medical history (Valdimarsdottir et al., 1995). This measure has face validity and has been implemented with other African American samples.

Attributions of breast cancer. Participants completed a nine-item measure based on the illness perception questionnaire (IPQ) (Weinman et al., 1996). Abstracts reporting the use of this measure did not specify the race/ethnicity of study participants; thus, it is unclear whether the measure has been shown to be valid with individuals of African descent. To assess etiological attributions, we included additional items that assessed specific areas of interest (see Table 2). The first additional question tapped the commonly reported attribution, ‘A blow to the breast causes breast cancer’. Although the original scale included an item about pollution, (which was included in this study), we added a separate question on environmental poisons given the amount of attention in Long Island, New York to possible environmental causes of cancer (Gammon et al., 2002). We thought the phrase ‘environmental poisons’ more adequately addressed these issues, as poisons may bring to mind chemical or other toxins in the air or water, compared to more typical types of pollution such as smog or car exhaust.

Items were scored on a 5-point Likert scale ranging from (1) ‘Strongly Disagree’ to (5) ‘Strongly Agree’. It is important to note that attribution assessments such as those in the IPQ are typically completed by individuals who already have a given disease. Thus, an item might read, ‘Diet played a major role in causing my illness’. Because this was a healthy sample, all items were phrased to refer to the etiology of breast cancer in general (i.e. ‘Diet plays a major role in causing breast cancer’).

RESULTS

Demographic data

There were no differences between African American and European American women in age, or family history of cancer. As shown in Table 1, African Americans earned lower incomes, with the mean in the $20,000–39,999 range, while the European American mean was in the $40,000–59,999 range, $ (194) = 4.19, p < .0001. African Americans were also less likely to have a college degree, $ (195) = 7.90, p < .0001, and to have an occupation in the ‘Professional’ category, $ (191) = −3.04, p < .01.

Income (dichotomized into at least $40,000 per year or not) was negatively related to the attribution ‘own behavior’ ($ = −0.23, p < .01), where women who earned at least $40,000 per year were more likely to disagree with these statements. Thus, between-group comparisons for this item controlled for income. No other demographic
variables were significantly associated with any illness representations.

Illness representations among African American and European Americans

The last column of Table 2 shows the percent of women in the total sample who agreed (‘agree’ or ‘strongly agree’) with each attribution. As can be seen, the sample was most likely to attribute the development of breast cancer to heredity, environmental poisons/pollution, diet, and stress. While our measure did not include established biomedical risk factors such as early menarche, or postmenopausal obesity, it is interesting to note that the sample attributed breast cancer to some causes that are not well established. For example, one quarter of the sample believed that stress causes breast cancer.

The endorsement percent and mean attribution scores for each item, by race, are shown in Table 2. More European American women endorsed attributions of breast cancer as due to broadly external causes, such as the environment, and heredity. *t*-tests showed that they also had higher mean scores.
DISCUSSION

This study found that both African American and European American women attributed breast cancer to possible causes (e.g. stress) that have not been substantially established in the biomedical literature. This finding is concordant with those from other studies (Stewart et al., 2001), with some research reporting stress endorsed at rates as high as 34 and 42%. Few women endorsed 'chance' as a cause for breast cancer, mirroring the fact that in the past half century, people have wanted health to make predictive sense, to be based on coherent relationships with behavior, and to have a well-understood basis demonstrable in the laboratory and at postmortem (Rosenberg, 1997). It was interesting to note that while heredity was the attribution with the highest level of endorsement, this was barely over 50% of the sample.

More African American than European American women in the present sample attributed breast cancer to individual and relational causes such as blows to the breast, other people and personal behavior, though this was a modest finding. Roesch and Weiner (2001) among others have categorized attributions into locus (internal/external), stability (stable/unstable) and controllability; such models would be useful with a greater set of attributions than was possible in the present study. Future research which utilizes a broader set of items should also include cultural and religious/spiritual attributions that may reflect underlying differences in worldview. Ethnographic work may be useful in identifying many of the attributions that require further assessment with quantitative measures.

Some limitations should be noted in the present study. Women in the study were generally middle class medical center employees who voluntarily responded to advertisements for health research. These characteristics provided a unique window to investigate cancer attributions in a context wherein women had access to health-related information, medical coverage, and preventive health care. However, our results are necessarily limited in generalizability given the bias in both collection point and socioeconomic status. Thus, future research should investigate patterns of illness representations in a larger community sample derived from population sampling methods. Finally, while we did not have the power to investigate the ways in which attributions relate to health behavior practices (the mean age was below that required for mammography), this is clearly a link that should be investigated. Recent research has begun to study these issues; one study reported that believing cancer to be possible from bruises or sores was negatively associated with breast cancer screening (Magai et al., 2004). While it is important to understand the ways in which women understand breast cancer etiology, the critical next step is to understand how that translates into behavior.

As researchers identify these relationships, it may be suggested that cancer prevention and control strategies should be culturally tailored. However, cultural tailoring of cancer prevention strategies can be a double-edged sword. Beliefs about cancer etiology have alternately been conceptualized as cancer knowledge (e.g. see Price et al., 1992). In this way, beliefs can be transformed into discrete, held pieces of information that are either right or wrong, and subject to intervention. Yet, illness attributions may reflect deeply held cultural beliefs about an individual’s connection to, and interaction with the rest of the world. For example, while biomedical evidence does not yet support the idea that stress causes breast cancer, is it a clinician’s or researcher’s role to ‘correct’ such beliefs? Given the cultural context of many illness representations, researchers and cancer prevention specialists must carefully consider how they construct models of women’s ideas about breast cancer as well as how they create health interventions.
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REFERENCES

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