Breast Cancer Worry among Women Awaiting Mammography: Is It Unfounded? Does Prior Counseling Help?

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Abstract

The purpose of this study was to explore the prevalence of breast cancer anxiety and risk counseling in women undergoing mammography, and the association with known risk factors for cancer. Women awaiting mammography were surveyed regarding anxiety, prior breast cancer risk counseling, demographic and risk factors. Anxiety was assessed via 7-point Likert-type scale (LS). Risk was defined by Gail model or prior breast cancer. Data were analyzed by nonparametric methods; significance determined at alpha = 0.05. Of 227 women surveyed, 54 were classified "higher risk". Counseling prevalence was similar (52%) for all ethnic groups, but higher (72%, P<0.001) for "higher risk" women. On average, women awaiting screening/diagnostic mammography were somewhat worried (median LS = 4). Worry was significantly higher (P<0.05) in "higher risk" women (LS = 5), and in women living outside Honolulu (LS = 6). Counseling by primary care physicians (PCP) did not correlate with lower worry scores. It was concluded that most women awaiting mammography are not unduly anxious. Additionally, the findings showed a correlation between a woman's concern about developing cancer with known risk factors and rural residence.

Introduction

Recent advancements have improved our ability to assess breast cancer risk and to impact that risk by chemoprevention, aggressive surveillance, and surgery. However, the proper deployment and use of breast cancer screening is an area of much debate among physicians, and confusion among patients. In 2009, the United States Preventive Services Task Force (USPSTF) changed its recommendation to biennial, rather than annual, screening mammography for the average risk woman.[1] This recommendation cited potential harms of screening, including psychological distress.

Despite, or perhaps because of, an abundance of information regarding breast cancer risk, patients often inaccurately assess their risk for cancer.[2] Women tend to overestimate their breast cancer risk,[3-4] and this could be a source of significant anxiety, exacerbated by the process of mammography.[5] Though "nonpathological worry" about breast cancer might encourage women to engage in the protective behavior of screening mammography,[6] generalized inappropriate anxiety about breast cancer may result in decreased compliance with screening recommendations.[7] In the American Cancer Society 2010 screening guidelines for breast cancer, Smith comments, "…methods for improved communication and strategies to reduce avoidable anxiety are a priority area for applied research, and a priority area for adoption of successful strategies."[8]

Breast cancer risk counseling may be one way to impact cancer "worry" by imparting a more accurate perception of breast cancer risk.[3] Ostensibly, breast cancer risk counseling could be initiated by the primary care physician,[7] perhaps coinciding with the ordering of screening mammography. However, breast cancer risk counseling may not be routinely done. Reasons for the lack of counseling may be lack of time, lack of knowledge, or concerns about needlessly increasing patients' fear. This latter concern may be corroborated by a study showing that, among less-educated women, breast cancer risk counseling led to reduced mammography use.[9]

The aim of this study was to explore breast cancer anxiety among a multiethnic population of women awaiting mammography. The study sought to determine the prevalence and degree of worry about breast cancer, and the association of worry with demographic factors, and with known risk factors for developing breast cancer. Additionally, there was an attempt to determine the prevalence of breast cancer risk counseling, the likelihood of counseling among different ethnic groups and breast cancer risk groups, and to evaluate for any evidence of the impact of prior counseling on breast cancer worry.

Methods

This prospective, observational study was conducted over four months (August-November 2006) at the university-affiliated Queen's Medical Center Women's Health Center. A convenience sample of women scheduled for mammography were surveyed immediately prior to their mammogram. Informed consent was obtained from all women. The study was approved by the Queen's Medical Center Research and Institutional Review Committee. The study's findings and conclusions do not necessarily represent the views of Queen's Medical Center, Honolulu, Hawai'i.

Women awaiting mammography in the reception area of the Women's Health Center were asked to complete a 9-item survey with questions on ethnicity, concern about developing breast cancer, prior breast cancer risk counseling, and current desire for breast health counseling. Additional historical data relevant to breast cancer risk was provided by a questionnaire completed by the patients and imaging technologists. Anxiety was assessed via 7-point Likert-type scale (LS): "1" indicating "not at all worried", "4" indicating "somewhat" and "7" indicating "extremely worried." "Higher risk" women were defined as those with a prior history of breast cancer, or a Gail model[8] predicted 5-year cancer incidence of >2% and >1.5 times risk for age.

A biostatistician analyzed data using nonparametric statistics (Kruskal Wallis and Wilcoxon-Mann-Whitney tests.) Significance was determined at alpha =.05 with 2-tailed tests.

Results

The 227 women surveyed represented 6% of the approximately 4,000 women undergoing mammography at the institution during that time. Response rate was over 90%; there was no noticeable difference in ethnicity between responders and non-responders. Ethnicity of responders was as follows: 14% Hawaiian/Pacific Islanders, 63% Asian, 17% Caucasian, 6% other, 98% of women lived on O'ahu, 70% of these in Honolulu, 96% reported having a primary care physician, 54 women (24%) were classified "higher risk" by Gail model or a prior history of breast cancer.

Fifty-two percent of women reported having been counseled by a physician regarding their breast cancer risk. Counseling prevalence did not differ by age, residence, or ethnicity. "Higher risk" women were more likely to have received counseling prior to mammography (72%, P<0.001).

On average, women awaiting screening or diagnostic mammography were somewhat worried about developing breast cancer (mean LS = 4.1, median LS = 4). Worry was significantly higher in "higher risk" women (median LS = 5, P<0.05). Women who had traveled to Honolulu for their imaging were also significantly more worried than those who lived in the city (median LS = 6, P<.0.05). We noted a non-significant trend toward increased worry (median LS = 5) in obese women (P = 0.06), smokers (P = 0.1), and Asian, Hawaiian and Pacific islanders (P = 0.06). Counseling by a primary care physician did not correlate with lower worry scores, but there was a trend toward lower worry scores (mean LS = 3.5, NS) in those few counseled by a medical oncologist.

Discussion

The population of women having mammography at this institution parallels the population of the state in its ethnic diversity. Almost all of the women having mammography maintain contact with a primary care physician. Though almost half of women stated they had not received counseling about their breast cancer risk, there did not appear to be any racial disparity in the prevalence of counseling. Counseling had been appropriately provided more frequently to higher risk women. The fact that counseling by a primary care physician did not appear to correlate with lower worry scores may be related to the subset of women who received counseling. We do not have information on the level of worry of women before they were counseled, but because they were at higher risk and/or may have requested information about breast cancer, one could reasonably hypothesize that their baseline cancer worry was higher, and that counseling reduced their worry to the level of women who had not requested or received information about their breast cancer risk. Additionally, we do not have information regarding the specific aspects of the cancer risk counseling or the woman's understanding of the information provided. Women were asked broadly if they had "ever discussed their breast cancer risk with a doctor," and it is acknowledged that there is likely to be significant variation among providers of this information. The potential for greater impact from counseling (eg, by providing standardized information in multiple formats, and assessing the woman's comprehension) exists and may be a topic for future research.

The population of women in this sample appears to have a level of breast cancer worry that is commensurate with their risk factors for developing cancer. This reached statistical significance when taking into account the most commonly used risk predictor, the Gail model. However, women with minor risk factors, including those lifestyle factors (obesity and smoking) that can be modified, also tended to harbor more breast cancer worry.

Women residing in more rural areas had a similar prevalence of counseling, yet were more worried than women living inside our city. This could potentially be due to the number of women choosing to travel to this breast imaging center because of worry and/or perceived increased risk of developing breast cancer. The observation that women from rural areas harbor more worry has supported the policy of providing same-day mammogram interpretation for women traveling from neighbor islands to the breast imaging center.

In summary, in the population of women in this study undergoing mammography, breast cancer worry was not sufficiently severe to advocate limitation of this screening modality. Theoretically, these women's concern might produce the beneficial effect of encouraging compliance with cancer risk reduction and cancer screening strategies. Women at higher risk for developing breast cancer harbor more anxiety, and thus should be targeted for efforts to reduce cancer worry.

The observational and relational data provided by this study may serve as the background for future research on the effect of breast cancer risk counseling on women's anxiety and their perception of their cancer risk, participation in breast cancer prevention protocols, and in compliance with breast cancer screening recommendations.

The conclusions of this study do not necessarily reflect the views of the Queen's Medical Center, Honolulu, Hawai'i.

Disclosure

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