

## ARTICLES

# Cancer Worry in Women With Hereditary Risk Factors for Breast Cancer

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**Purpose/Objectives:** To investigate symptom-based cancer worry in women who are at hereditary risk for breast cancer, specifically levels of worry, correlations of cancer worry, perceived cancer risk, and clinical signs or symptoms of breast cancer, as well as predictors of cancer worry.

**Design:** Cross-sectional, correlational.

**Setting:** Primarily the United States.

**Sample:** 200 women, aged 18–80, with no personal history of cancer, who met at least one established criterion of hereditary breast cancer risk were recruited primarily from a mammography facility and cancer prevention clinics or via network sampling.

**Methods:** Completion of the following self-report instruments: Thoughts About Cancer Scale and measures of clinical symptoms, perceived risk, and sample characteristics. Data analysis consisted of descriptive statistics, Pearson correlations, and binary logistic regression.

**Main Research Variables:** Cancer worry, total clinical signs of cancer, perceived cancer risk, age, and family history.

**Findings:** Participants sometimes worried about breast cancer but had more general breast cancer worry than worry based on perceived neutral or breast cancer-specific symptoms. Total clinical signs of breast cancer correlated significantly with cancer worry. Women aged 41–50 and those with more clinical signs of breast cancer were 3.76 and 1.49 times more likely to have high worry, respectively.

**Conclusions:** Moderate worry in high-risk women is not unusual. Total symptoms and younger age predict higher breast cancer worry, whereas perceived risk and family history do not.

**Implications for Nursing:** Counseling of young, high-risk women should include assessments of worry and clinical signs of breast cancer.

Cancer worry is a phenomenon receiving heightened scrutiny in the cancer literature, particularly in studies of hereditary cancer predisposition. Predominant risk factors for hereditary cancer predisposition include a strong family history of one type of cancer or constellations of cancers that are signals for certain hereditary syndromes. In these syndromes, cancers usually present in two or more first-degree relatives (e.g., parent, sibling, child) or one first-degree and two or more second-degree relatives (e.g., grandparent, aunt or uncle, niece or nephew), resulting in a pattern of cancer in the family that often spans several generations. Such cancers also may be diagnosed at younger ages than their sporadic counterparts (Lynch & Lynch, 1991). Thus, people at inherited risk for cancer predisposition may worry about not only *whether* they will get cancer, but *when* cancer will occur, thereby providing one explanation for why study of cancer worry is gaining importance.

Cancer worry in individuals at risk for hereditary breast cancer ostensibly affects risk perception, risk-reduction be-

### Key Points . . .

- ▶ Women with strong hereditary risk factors may not be overly worried about developing breast cancer.
- ▶ Worry has not been linked conclusively to practice of risk-reduction behaviors in high-risk populations.
- ▶ More research is needed to better understand associations among clinical signs and symptoms, cancer worry, and perceived risk of cancer.

haviors, and well-being. However, associations of cancer worry with these constructs are not straightforward. For example, some studies reported a positive relationship between breast cancer-specific worry and perceived risk of cancer (Bish et al., 2002; Brain, Norman, Gray, & Mansel, 1999; Easterling & Leventhal, 1989; Hopwood et al., 1998; Lloyd et al., 1996), whereas others showed no relationship (Audrain et al., 1997). Likewise, moderate to high levels of cancer worry motivated specific risk-reduction behaviors in high-risk groups (Audrain et al.; Diefenbach, Miller, & Daly, 1999; McCaul, Branstetter, O'Donnell, Jacobsen, & Quinlan, 1998) or inhibited those behaviors (Kash, Holland, Halper, & Miller, 1992; Kash, Holland, Osborne, & Miller, 1995; Lerman et al., 1993). High levels of worry also influenced participation in risk-assessment or cancer-prevention clinical trials (Audrain et al.; Bowen et al., 1999; Brain et al., 2001; Lerman, Rimer,



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