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Dependable social relationships predict overall survival in Stages II and III breast carcinoma patients

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Abstract

Objective: The effect of support, from dependable nonhousehold relationships, on breast cancer progression was studied using a prospective, longitudinal design. **Methods:** Dependable social support was assessed in women with invasive breast carcinoma Stages II and III within 18 months after diagnosis. Disease outcome was monitored for 8 to 9 years. Cox regression analyses, including the Nottingham Prognostic Index (NPI) score of disease severity, tested the association between the number of dependable support persons and time to death. **Results:** Ninety participants listed between 1 and 16 dependable nonhousehold support persons (mean=6, S.D.=4). There were 21 recurrences and 16 deaths from breast cancer at the end of the study. The number of dependable supports predicted decreased mortality [RR=0.41 (0.21–0.80), P=.01] after controlling for NPI. NPI predicted increased mortality [RR=1.6 (1.0, 2.4), P=.05]. **Conclusions:** For patients with Stages II and III breast cancer, the number of dependable, nonhousehold relationships predicts decreased mortality, after accounting for disease severity.

Keywords: Breast cancer; Psychosocial factors; Social support; Survival

Introduction

Social isolation is equivalent to cigarette smoking in its strength as a risk factor for mortality [1] in the general population. However, this knowledge has not been successfully applied to improve health outcomes. Interventions designed to improve social support have demonstrated little or no impact on disease progression or mortality [2]. This is probably because the specific aspects of social relationships with salutary effects on health have not been identified. Socially isolated individuals report fewer interactions with others, fewer sources of psychological/emotional and instrumental support, and lower levels of religious activity. The relative impact on health outcomes from these and other aspects of social relationships remains to be clarified [2].

Studies of the potential protective effect against the recurrence and mortality of "social support" during the year after breast cancer diagnosis have had inconsistent results. This is probably due to variation in the definition of "social support". Some studies focus on the "social network", conceptualized as the number of friends and relatives reported by the patient, but without consideration of the patient's actual reliance on these individuals. Other studies focus on patient satisfaction with the support they receive. Finally, other studies, including the present one, focus on the functional aspects of relationships, measured as the number of friends and/or relatives on whom the patient feels she can rely for support or help. A precise definition of social support is needed to allow an accurate assessment of its role in breast cancer progression.

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The Social Network Index (SNI) has frequently been used to assess the structural aspects of social support [3]. It is constructed from information about marital status, religious affiliation, group membership, and total contact with friends and relatives. Neither the woman's reliance on network members nor her satisfaction with the level of support is assessed by the SNI.

Studies examining the effect of the social network on survival from breast cancer have found inconsistent results. A study by Goodwin et al. [4] found that the SNI predicted mortality among 646 elderly patients with cancer of the breast, prostate, or colon or rectum. Individuals in the lowest quartile of the SNI (with the smallest support networks) had a significantly elevated risk of mortality, as compared with those in the highest quartile. Analyses for breast cancer patients alone were not reported. Similarly, Reynolds and Kaplan [5] found that a component of the SNI, total contact with friends and relatives, significantly predicted mortality in 71 women with hormone-related cancers. However, the full SNI did not predict disease outcome in these women. Neither Goodwin et al. nor Reynolds and Kaplan controlled for disease severity in the survival analyses.

In contrast, a much larger study by Reynolds et al. [6] of 1011 women with newly diagnosed breast cancer failed to find a significant effect for either the SNI or a measure of total contact with friends and relatives, in predicting survival, after accounting for disease severity. Waxler-Morrison et al. [7], in a study of 133 newly diagnosed breast cancer patient, also failed to support the hypothesis that a larger social network, as measured by the SNI, was a protective factor. Rather, the authors found that patients with the largest social networks had a significantly increased mortality rate when compared with women with the smallest social network. Both of these studies [6,7], as well as all others cited hereafter, used a prospective design and included disease severity variables in the analyses of social support predicting disease outcome.

Several other studies also failed to find that the SNI or similar network measures predicted recurrence or survival in breast cancer patients. For example, Cassileth et al. [8] found no effect for the SNI on time to recurrence in 359 patients with newly diagnosed breast cancer or melanoma. Similarly, Funch and Marshall [9] failed to find that network size predicted survival in 208 women with newly diagnosed breast cancer. The preponderance of the evidence does not support structural measures of social support as predictors of breast cancer outcome.

In contrast to structural support, functional social support is defined by the way support is used and how its recipient perceives it. For example, a study by Ell et al. [10] found that the perceived adequacy of emotional support from close relationships predicted increased survival in 168 women with newly diagnosed breast cancer.

Levy et al. [11] also measured the patient's perception of interpersonal support in a study of 81 patients with newly diagnosed breast cancer. They found that this measure of functional social support predicted increased time to recurrence. In contrast, a study by Giraldi et al. [12] found that self-report of adequacy of social support did not predict recurrence or survival in 95 women with newly diagnosed breast cancer.

Recent studies, including some of those already cited, have introduced a more fine-grained analysis of social support by assessing the extent to which women felt they could rely on their friends and relatives. Waxler-Morrison et al. [7] asked participants, "In the event of domestic or emotional problems or other stressful situations do you have any friends on whom you could call for support or help?" The authors found that patients with three or more dependable supportive friends were significantly more likely to survive than were patients with two or fewer such friends (RR=.61, P=.0001).

Similarly, Reynolds et al. [6] measured the number of reliable supportive relationships by asking women about family members, friends, or other individuals with whom they could talk about the illness or about other personal problems. The authors found that women reporting fewer reliable supportive relationships were significantly more likely to die of breast cancer. Similarly, a study by Maunsell et al. [13] of 224 women with newly diagnosed breast cancer found that women with two "classes" of confidants (i.e., spouse, doctor, or friend) had a relative risk (RR) of 0.54 (CI= 0.28–1.06), as compared with women with no confidants.

Thus, the preponderance of evidence from studies of breast cancer suggests that any protective benefit from "social support" is likely to be related to the functional, rather than the structural aspects of social relationships. However, definitions of functional support have varied among studies. Accordingly, the present study seeks to contribute to the literature on a specific form of functional support by examining the relationship between the number of dependable supportive relationships and survival in breast cancer patients. The specific hypotheses are the following:

(1) Disease severity will predict breast cancer recurrence and mortality.
(2) The number of nonhousehold friends and relatives that patients report they would call on for help or support will predict decreased breast cancer recurrence and mortality.

In addition, we will explore whether the amount of contact with dependable supports adds to the predictive power of the number of supports.

Method

Study design

The number of dependable support persons and the amount of contact with these individuals were assessed