



Published in final edited form as:

Cancer Nurs. 2009 ; 32(4): 309–316. doi:10.1097/NCC.0b013e31819e239e.

Effect of Perceived Barriers to Symptom Management on Quality of Life in Older Breast Cancer Survivors

Hyun-e Yeom, MS, RN and Susan M. Heidrich, PhD, RN

School of Nursing, University of Wisconsin-Madison, Madison, Wisconsin

Negative attitudes about aging of both older adults and health care providers can be barriers to self care in old age. The aims of this study were 1) to examine the extent to which older breast cancer survivors experience barriers to symptom management, and 2) to explore whether barriers influence quality of life. Three possible barriers to symptom management were examined: negative beliefs about managing symptoms, perceived negative attitudes of health care providers, and difficulties in communicating about symptoms. This study was a secondary analysis of pooled baseline data from 61 older (age > 64) women who participated in two pilot studies that tested a symptom management intervention for older breast cancer survivors. The most frequent barrier reported was difficulties in communicating about symptoms with health care providers. Each of the barriers affected psychosocial, but not physical, quality of life. Barriers to symptom management may lead to poorer self care of symptoms that can result in lower levels of psychosocial quality of life. Health care providers need to encourage older cancer survivors to report symptoms and worries related to their cancer diagnosis and should be cautious in expressing attitudes that could reinforce older adults' negative perceptions about aging.

Introduction

Age is one of the most influential risk factors in breast cancer.^{1, 2} Women aged 65 years and older comprise approximately 50% of the population newly diagnosed with breast cancer, and the 5-year survival rate after a breast cancer diagnosis in women aged over 50 is as high as 84%.³ In spite of the high survival rate, experiencing and managing cancer in old age can be stressful because of age-related health declines, including multiple and often chronic symptoms, late effects of cancer treatments, and comorbidities.^{4, 5} Cancer often leaves numerous physical health sequelae that persist for decades despite successful treatments.⁴ In addition, whether or not cancer survivors experience symptoms, they suffer from worries about a cancer recurrence and anxiety about an unknown future.⁶ Accordingly, experiencing physical symptoms may aggravate psychological distress. Thus, effective management of multiple, often chronic, and comorbid symptoms is crucial in enhancing quality of life of older cancer survivors.

However, older cancer survivors are faced with barriers to effective and active symptom management, some of which are rooted in negative beliefs about aging. Self-stereotypes about aging are negative attitudes about aging that older people apply to themselves that can influence their behaviors.⁷ Ageist stereotypes on the part of health care providers may also influence older persons' behavior. These different sources of stereotypes about aging can influence older adults' beliefs about managing symptoms, their perceptions of negative attitudes about aging from their health care providers, and their communication about symptoms with HCPs. All

three may function as barriers that prevent older adults from effectively managing their symptoms and, in turn, decrease their quality of life. The aims of this study were to 1) examine the extent to which older breast cancer survivors experience barriers to symptom management, and 2) to explore whether the barriers influence quality of life.

Background

Beliefs about Symptom Management in Old Age

Older cancer survivors are a particularly vulnerable group among cancer survivors due to the combined effects of late effects of cancer, its treatments, and age-related comorbidities.^{4, 5, 8} Late effects of cancer (eg, decreased general functioning, chronic fatigue, or low level of energy) can persist for up to 20 years.⁴ At the same time, older adults are typically coping with age-related declines and comorbid health problems that produce multiple and chronic symptoms.^{8, 9} Older cancer survivors are thus likely to perceive their symptoms as an inevitable and natural consequence of aging rather than as late effects of cancer or as disease-based.¹⁰ These beliefs may be rooted in negative aging self-stereotypes or in messages they have received from health care providers. On the other hand, older cancer survivors worry that these symptoms could be signs of a cancer recurrence.^{4, 10}

The belief that symptoms are normal in old age is associated with less active engagement in symptom management in older adults.¹¹ Older adults are reluctant to report health problems and symptoms that they attribute to normal aging, and those that do attribute symptoms to aging tend to place less importance on seeking health care.¹² In addition, older adults tend to believe that medical treatments in old age will be minimally beneficial to their health problems, and this belief may interfere with attempts to manage symptoms.⁹

Negative Attitudes of Health Care Providers

Being able to communicate with health care providers and report physical symptoms can decrease worries about a cancer recurrence.^{6, 13} Both the length of communication and its quality, however, appear to decline as patients get older.¹³ Older adults are much less likely than younger adults to ask questions and to seek additional care from HCPs.¹¹ Vivar and McQueen (2005) noted that follow-up visits of older cancer survivors were limited in their assessment of physical problems and cancer status, and psychological distress was rarely addressed.¹⁴ Lerman et al. (1993) indicated that 32% of older adults with breast cancer have difficulties in understanding information from HCPs, expressing feelings, or asking questions.¹⁵

Prior studies about ineffective communication in old age often focused on patient-related barriers, such as physical and mental impairments (e.g., hearing and vision loss, cognitive impairment) and rarely addressed possible barriers caused by health care providers. HCPs may not be free from negative stereotypes or beliefs about aging.^{1, 9, 16} Examples of such beliefs are that older adults are too old to try a new treatment, older adults may be unwilling to try new treatments, and intervention is ineffective in older adults.^{9, 16} Ory et al. (2003) indicated that almost half of older adults reported that their HCPs seemed to regard them as being too old to do something and too old to expect good effects.¹⁶ These negative perceptions may influence whether older adults report their symptoms to HCPs and may increase the worry about being labeled a difficult patient. In addition, negative attitudes on the part of HCPs may reinforce the older adult's negative aging self-stereotypes, which may also operate as a barrier to symptom management.

Difficulty Communicating about Symptoms with Health Care Providers

Older cancer survivors may have difficulties in interpreting symptoms, identifying their causes, and deciding if they should report them to their health care providers.^{10, 17} Cancer survivors may think that their HCPs should focus on high priority topics¹⁸ and that talking about symptoms older adults may view as age-related may distract the HCPs from providing more important care.⁹ In addition, older adults believe that reporting symptoms may lead to being labeled as neurotic patients,⁹ and that good patients refrain from talking about physical discomforts.¹¹ Taken together, these beliefs may keep older cancer survivors from communicating with their health care providers about symptoms, even if they worry that symptoms may be signs of a cancer recurrence.

Symptoms and Quality of Life in Older Cancer Survivors

Symptoms are a major influence on quality of life in older women with breast cancer. Higher symptom burden in older cancer survivors has been associated with lower levels of physical function,^{4, 19} social function,²⁰ and overall quality of life.^{10, 21} In older breast cancer survivors, more severe symptoms are associated with higher levels of psychological distress in the short and long term.²² Thus, improving quality of life in older breast cancer survivors is, to some extent, dependent on improving symptom management to effectively reduce symptom distress.²³

In this study, quality of life was conceptualized broadly in order to capture the important dimensions of quality of life for older adults. In old age, the salient dimensions of quality of life include an emphasis on positive physical and psychosocial (both emotional and social) functioning.^{2,10}

In summary, effective symptom management of older cancer survivors can be a complicated process associated with beliefs about symptoms in old age, possible negative attitudes about aging from HCPs, and difficulties in communicating with health care providers. In this study, we examined the extent to which older breast cancer survivors experienced these three barriers in managing symptoms as well as whether these barriers affected their quality of life.

Methods

Design

This study was a secondary analysis of baseline (pre-intervention) data from two pilot studies that tested a symptom management intervention (IRIS: an individualized representational intervention to improve symptom management) for older breast cancer survivors.²³

In pilot study 1, 42 women were randomized to the IRIS intervention or usual care control. In pilot study 2, 21 women were randomized to the IRIS intervention or a delayed treatment (wait list) control. Measures were collected at baseline, post-intervention, and follow-up (up to four months). Baseline assessments included demographic information, cancer and health history, symptom assessments, measures of three barriers to symptom management, and four measures related to quality of life in cancer patients (physical quality of life, psychosocial quality of life, depression, and anxiety). The same measures were used in both pilot studies. The samples were similar in terms of demographics, health history, and symptomatology. Further details about the pilot studies and results of the intervention are reported elsewhere.²³

Sample and Procedure

The sample included 61 older (age > 64) breast cancer survivors. Eligibility criteria in the parent studies were: women who were over 64 years old, at least one year post-diagnosis of breast cancer, at least three month post treatment, without metastatic cancer or recurrence of

breast cancer, and without cognitive impairment. Women were excluded if they reported metastatic disease, a breast cancer recurrence, or other cancer diagnosis (other than skin). Cognitive impairment was assessed with a screening interview by advanced practice nurses. Women were recruited from the oncology clinics of a large comprehensive cancer center located in the Midwest and from the community using advertising. Interested women called the research office, the study was explained, and eligibility determined. If interested, women were sent an informed consent form, and an appointment was made for the baseline interview. At the interview (in the participant's home or setting of choice), written informed consent was obtained. IRB approval was obtained from all participating institutions.

In a power analysis, using a-priori sample size tool (from: <http://www.danielsoper.com/statcalc>)²⁴ for multiple regression, when the alpha was at 0.05, desired power level at 0.80, number of predictors as 4, and anticipated effect size as 0.15, the minimum required sample size for this study was 57.

Measures

Demographic, Health, and Breast Cancer Information—Older women completed a demographic questionnaire asking their age, education, income, ethnicity, marital status, and living arrangements.

For health history, women were asked about comorbidities and symptoms. The number of chronic illnesses (comorbidities) was measured with an 8-item self-report checklist adapted from the Older Americans Resources and Services (OARS) schedule of illnesses, which has been widely used in research with community-dwelling middle-aged and older adults.²⁵ Participants reported whether or not they had been diagnosed with each health problem, and the total number of chronic illnesses was computed.

Symptoms were measured with the 37-item Symptom Bother Scale-Revised (SB-R).^{10, 23, 26} The SB-R consists of symptoms common to aging, age-related chronic illnesses, and late effects of cancer and its treatment. Respondents are asked if they have each symptom and how much they are bothered by it on a 0 (*don't have*), 1 (*have, but not at all bothered*) to 5 (*extremely bothered*) scale. The reliability and validity of the SB-R scale were demonstrated in a previous study of older women with and without cancer.¹⁰ Both the total number of symptoms (range, 0–37 possible) and mean degree of bother (symptom distress) were computed. The reliability in this current study was $\alpha = .89$.

Information about breast cancer history included months since diagnosis and types of treatments.

Barriers to Managing Symptoms—Three scales were developed to measure barriers to symptom management: the Symptom Management Beliefs Questionnaire (SMBQ), Communication Attitudes (CommA), and Communication Difficulties (CommD). These three scales underwent initial psychometric testing in a separate study (reported below).

The Symptom Management Beliefs Questionnaire (SMBQ) assesses the extent to which a person holds negative beliefs about experiencing or managing symptoms. A 13-item scale was developed by adapting some items from Ward's Barriers Questionnaire,²⁷ which has been used to measure attitudinal barriers to analgesic use for cancer pain, and by adding specific items reflecting negative stereotypes about aging. Each item was scored from 0 (*do not agree*) to 5 (*completely agree*), and the mean score was calculated. Higher scores indicate more negative beliefs about managing symptoms.

Communication attitudes (CommA) is a 7-item scale that assesses the extent to which patients perceive negative stereotypes about aging from their health care providers. Communication Difficulties (CommD) is a 6-item scale that assesses difficulties in communicating about symptoms with health care providers. Responses to both scales are dichotomous (“yes”=1, “no”=0). For each scale, total scores were computed, and higher scores indicate that patients experienced more negative attitudes from health care providers or more difficulties in communicating about symptoms with health care providers.

Items for the three scales were reviewed for content validity by three adult and geriatric nurse practitioners (master's prepared). The three scales were tested for reliability and validity in 140 adults recruited from senior centers and internal medicine clinics. They completed anonymous questionnaires including demographic data, subjective health, SMBQ, CommA, and CommD. Their mean age was 68 years (range, 20–99). The majority were white (91%), female (77%), retired (74%) and college-educated (64%). The mean health rating was 2.5 on a 5-point scale (SD, 0.99), which corresponds to “good” health.

Evidence for construct validity of the three new scales was indicated by significant, small to moderate correlations between the SMBQ and CommA ($r = 0.38$; $P < .05$) and CommD ($r = 0.23$; $P < .05$). CommA and CommD were significantly related to each other ($r = 0.47$; $P < .05$). These correlations indicate that the three scales measured related, but independent, aspects of barriers.

Other evidence for validity included significant relationships between difficulty communicating about symptoms (CommD) and poorer perceived health ($r = 0.23$; $P < .01$), and between education and two barriers. Education was significantly related to SMBQ and CommD. Those with less education held more negative beliefs about symptoms ($r = -0.38$; $P < .05$) and reported more difficulty communicating with health care providers ($r = -0.29$; $P < .05$).

Reliabilities (Cronbach's alpha) of the three scales were $\alpha = .83$ (SMBQ), $\alpha = .91$ (CommA), and $\alpha = .84$ (CommD). In the current study, reliabilities of the SMBQ, CommA, and CommD were $\alpha = .78$, $\alpha = .79$, and $\alpha = .71$, respectively, which are considered acceptable for new scales.²⁸ The lower reliabilities in the current study may reflect the smaller sample size and/or a more homogeneous sample.

Quality of life—Quality of life was conceptualized broadly to include physical and psychosocial (including emotional) dimensions. Physical quality of life was measured with the Physical Component Summary (PCS) scale of the Medical Outcomes Study SF-12 scale.²⁹ The PCS scale is computed by using specific scoring instructions resulting in standardized scores. Higher scores indicate higher quality of life. The reliability in this study was $\alpha = .87$.

Psychosocial quality of life was assessed with three measures: the Mental Component Summary (MCS) scale of the SF-12, the 10-item Center for Epidemiological Studies Depression (CESD-10) scale, and the State Trait Anxiety Inventory (STAI) scale. The MCS scale is computed by using specific scoring instructions resulting in standardized scores.²⁹ Higher scores indicate higher quality of life. The reliability in this study was $\alpha = .71$. The validity and reliability of both the PCS and MCS have been demonstrated in numerous studies in both general and disease-specific populations, and their validity for older adults is also supported.³⁰

The 10-item CES-D was developed for community-based studies, and its validity has been tested in a number of studies targeting older adults.³¹ The CESD-10 is a dichotomous scale asking whether persons have experienced a symptom during the past week. Higher scores

indicate more depressive symptoms. A sensitivity of 97%, specificity of 84%, and positive predictive value of 85% in older adults has been demonstrated.³¹ The reliability in this study was $\alpha = .64$.

The STAI is a brief self-report assessment.³² It consists of 20 items asking people to describe how they feel at a particular moment in time (e.g., calm, tense) rated on a 4-point intensity scale ranging from 1 (*not at all*) to 4 (*very much so*). A mean score is computed. Higher scores indicate higher anxiety. The reliability in this study was $\alpha = .85$.

Statistical Analysis

Statistical analyses were performed using SPSS 12.0. Descriptive statistics were computed for all variables. The effect of barriers on quality of life was examined by using hierarchical multiple regression analyses.

Results

We report results in three parts. First, we describe the sample. Second, we describe the extent to which older breast cancer survivors experience barriers to symptom management (aim 1), and third, we report the results of the exploration of whether barriers influence quality of life (aim 2).

Description of the Sample

Table 1 shows demographic characteristics, health history, and breast cancer history. The mean age of participants was 71 (SD, 5.2) years (range, 65 – 86). Average years of education was 15 (SD, 2.7), and 49.2% had an annual income over 40,000 dollars. Most participants were Caucasian (96.7%), and over half of participants were married (63.9%).

Participants reported an average of three (SD, 1.3) chronic illnesses. Over half of older women suffered from arthritis (67.2%) and high blood pressure (54.1%). Participants reported an average of 17 (SD, 6.9) symptoms (range, 5 - 30). The average degree of symptom bother was 1.11 (SD, 0.6; range, 0.2 - 2.9).

The participants were diagnosed with breast cancer on average 7 years ago, and approximately half the participants had undergone mastectomy, lumpectomy, and radiation therapy.

The mean standardized score on the physical quality of life scale (PCS) (Mean, 42.3; SD, 11.6; range, 19.9 – 58.3) was lower than the psychosocial quality of life scale (MCS) (Mean, 56.2; SD, 6.8; range, 25.1 – 67.1). The PCS score of the sample was similar to the population norm for older adults in the U.S. aged 65 – 74 (Mean, 43.65; SD, 11.02; range, 13 – 59).²⁹ The MCS score in this sample was slightly higher than the population norm for older adults in the U.S. aged 65 – 74 (Mean, 52.10; SD, 9.53; range, 19 – 70).²⁹ The means for the depression (Mean, 0.7; SD, 1.3; range, 0 – 6) and anxiety scales (Mean, 26.9; SD, 7.2; range, 20 – 50) indicated a low level of these symptoms.

Barriers to Symptom Management in Older Breast Cancer Survivors

Descriptive statistics on the SMBQ scale indicated that participants had few negative beliefs about symptom management (Mean, 1.72; SD, 1.24; possible range, 0-5). The items with the highest mean agreement were “Many symptoms are just a normal part of getting older” (Mean, 3.87; SD, 1.16), “It is easier to put up with pain than with the side effects of some medications” (Mean, 2.50; SD, 1.53), and “The ‘cure’ for symptoms is often worse than the disease” (Mean, 2.15; SD, 1.62).

Table 2 shows the extent to which participants perceived negative attitudes from HCPs (CommA) and difficulties communicating with health care providers (CommD). Results from the CommA scale indicated that twenty-nine percent of participants ($n = 17$) reported experiencing at least one negative attitude or stereotype about aging from a health care provider. Twelve percent ($n = 7$) reported five or more negative attitudes. The most frequently endorsed item was “You're better off than a lot of women who have had breast cancer” (13.8%). The next three most frequently reported (approximately 12% of women) negative attitudes were: “You shouldn't be so concerned, worried, or anxious about breast cancer now”; “A lot of women with breast cancer are worse off than you”; and “Compared to other women with breast cancer, your problems are minor.” The mean number of perceived negative attitudes was 0.76 (SD, 1.45).

Results from the communication difficulties (CommD) scale indicated that fifty-four percent of participants ($n = 32$) reported at least one difficulty in communicating about symptoms with health care providers, and 19.7% reported 3 or more communication difficulties. The most frequently endorsed item (30.5%) was, “Not knowing which doctor I should talk to about different symptoms.” Over twenty percent reported “Not knowing for sure which symptoms to tell my doctor about” (27.1%) and “Not knowing if my doctors are communicating with each other about my health care” (25.4%). The mean number of difficulties was 1.22 (SD, 1.47).

Correlations among the three barriers scales were computed. Communication attitudes and difficulties were positively related ($r = 0.32$; $P < .05$). SMBQ was not significantly related to CommA ($r = .25$) or CommD ($r = .08$).

Effects of Barriers to Symptom Management on Quality of Life

Before regression analyses were performed, correlations among the major variables were examined. There were no significant relationships between demographic characteristics and any quality of life measure. There were two significant correlations between health variables and quality of life outcomes. Participants with more chronic illnesses reported lower PCS ($r = -0.26$; $P = .04$), and those with more symptom bother reported significantly lower PCS ($r = -0.54$; $P < .01$) and MCS ($r = -0.44$; $P < .01$) and significantly higher depression ($r = 0.57$; $P < .01$) and anxiety ($r = 0.51$; $P < .01$). Therefore, number of chronic illnesses and symptom bother were controlled in the regression analyses.

For the multiple regression analyses, each quality of life outcome and each barrier were examined in separate regressions. For each regression analysis, number of chronic illnesses and SB-R were entered in the first step as control variables, followed by the barrier.

Table 3 shows the results of the hierarchical regression analyses predicting physical quality of life. There were no significant effects of barriers on physical quality of life.

Table 4 shows the results of the hierarchical regression analyses predicting psychosocial quality of life (MCS, depression, anxiety). After controlling for number of chronic illnesses and symptom bother, symptom management beliefs (SMBQ) was a significant predictor of depression, but not of MCS or anxiety. SMBQ significantly increased the explained variance in depression by 6.3% ($\beta = .25$), indicating that an individual with more negative beliefs reported more depressive symptoms. After controlling for number of chronic illnesses and symptom bother, communication attitudes (CommA) was a significant predictor of MCS, but not of depression or anxiety. CommA significantly increased the explained variance in MCS by 9% ($\beta = -.31$). After controlling for number of chronic illnesses and symptom bother, communication difficulties (CommD) was a significant predictor of MCS, but not of depression or anxiety. CommD significantly increased the explained variance in MCS by 6.7% ($\beta = -$

26). Older breast cancer survivors who perceived more negative attitudes from their HCPs and reported more communication difficulties had lower levels of psychosocial quality of life (MCS).

Discussion

This study found that older breast cancer survivors who had negative beliefs about symptom management, perceived negative attitudes from their health care providers, or reported difficulty communicating about symptoms had lower quality of life. These three barriers have been found in previous research that identified the importance of communication about symptom management in improving patients' quality of life,^{15, 16, 33} but have not previously been examined with structured measures or in the same study. Previous studies have suggested that the optimal care for older adults should be based on a concrete assessment of both physical health and psychological status, and include beliefs, expectations for intervention, and the relationship with the provider.^{5, 6} Although the mean levels of negative symptom management beliefs, communication attitudes, and communication difficulties were low, all three were significant predictors of the psychosocial dimensions of quality of life. Women in this study may have been better off in terms of education and income than many older breast cancer survivors and most received their care in an academic medical center. Thus, it may be that many older breast cancer survivors would experience more barriers to symptom management with even greater effects on quality of life than reported by this sample. Future research should address this issue.

The most frequently endorsed item from each of the three barriers scales are noteworthy: "Many symptoms are just a normal part of getting older"; "You're better off than a lot of women who have had breast cancer"; and "Not knowing which doctor I should talk to about different symptoms." The first reflects an ageist self-stereotype that may keep an older person from seeking needed medical care. The second, although perhaps well-meaning, was perceived by these older women as negative and dismissive of their real concerns. The third reflects the fact that many older cancer survivors have multiple primary and specialty health care providers and multiple comorbidities with little guidance as to how to negotiate care. Each of these suggests an avenue for nursing interventions to improve effective communication between older adults and their HCPs.

The positive relationship between communication difficulties and negative attitudes from HCPs is noteworthy. One interpretation of this finding is that the negative attitudes that older adults perceived from communication with their HCPs may lead to difficulty in talking about symptoms. Older cancer survivors are possibly discouraged from actively reporting their physical discomforts and seeking additional information because of perceived negative attitudes from their HCPs. Because older adults trust and prefer information from HCPs rather than other sources such as peer group or family,³³ the attitudes of HCPs during communication may significantly affect whether older adults share the necessary information HCPs need to help older adults manage symptoms.⁶

Limitations

While this study found meaningful effects of barriers to managing symptoms on quality of life in older cancer survivors, it also includes some limitations. Participants were limited to female, primarily Caucasian, breast cancer survivors. There might be a gender or racial/ethnic difference or difference by cancer type in managing or experiencing symptoms because of different social roles and life experiences or interactions with the health care system. Another limitation is the cross-sectional design. It is not known whether barriers to symptom management are outcomes of experiences as a patient, or whether pre-existing attitudes serve as barriers that influence interactions with health care providers. Future studies should include

a longitudinal design with larger, more diverse samples. Finally, we did not have measures of actual communication between patients and their health care providers. However, our findings are consistent with studies of provider-patient communication in clinical settings.

Implications

This study provides evidence that patients' beliefs about symptom management, perceptions about their communication with HCPs and the attitudes they perceive from their HCPs affects their quality of life. To reduce the difficulties older breast cancer survivors perceive in communicating about symptoms, HCPs may need to encourage older adults to report symptoms and to express their feelings, including worries and anxiety related to a cancer recurrence. In addition, informational supports including explanation about the benefits, necessity, and importance of symptom management in older age may reduce the barriers patients report.^{9, 34} Providers working with older cancer survivors should reflect on their own attitudes toward and beliefs about older adults. The findings of this study suggest that HCPs need to be more cautious in expressing feelings or attitudes that could be perceived as negative aging stereotypes by older adults. These attitudes may be related to a lack of knowledge as well as inappropriate generalizations about older adults due to insufficient contacts in limited situations.³⁵ Therefore, HCPs working with older adults need to understand what their older adults believe about the nature of health and treatment, and they should encourage older adults to communicate actively.³⁶

In summary, this study found that older breast cancer survivors experience barriers to symptom management and that barriers are related to their psychosocial quality of life. Psycho-educational interventions that provide both informational and communication supports should be tested to determine if they reduce barriers to symptom management and improve quality of life. The findings of this study can guide future studies in developing strategies to enhance the quality of life of an increasing number of older cancer survivors.

Acknowledgments

This study was supported by NIH R55 NR07741-01, P20 CA103697, P20NR008987, and a University of Wisconsin-Madison School of Nursing Research Committee Award.

References

1. Kearney N, Miller M, Paul J, Smith K. Oncology healthcare professionals' attitudes toward elderly people. *Ann Oncol* 2000;11:599–601. [PubMed: 10907955]
2. Heidrich SM. Older women's lives through time. *ANS Adv Nurs Sci* 1998;20:65–75. [PubMed: 9504209]
3. Brenner H. Long-term survival rates of cancer patients achieved by the end of the 20th century: a period analysis. *The Lancet* 2002;360:1131–1135.
4. Deimling GT, Bowman KF, Wagner LJ. The effects of cancer-related pain and fatigue on functioning of older adult, long-term cancer survivors. *Cancer Nurs* 2007;30:421–433. [PubMed: 18025913]
5. Thome B, Esbensen BA, Dykes AK, Hallberg IR. The meaning of having to live with cancer in old age. *Eur J Cancer Care (Engl)* 2004;13:399–408. [PubMed: 15606706]
6. Knobf MT. Psychosocial responses in breast cancer survivors. *Semin Oncol Nurs* 2007;23:71–83. [PubMed: 17303518]
7. Levy BR. Mind matters: cognitive and physical effects of aging self-stereotypes. *J Gerontol B Psychol Sci Soc Sci* 2003;58B:203–211.
8. Cohen HJ. Keynote comment: cancer survivorship and ageing - a double whammy. *The Lancet Oncol* 2006;7:882–883.
9. Miaskowski C. The impact of age on a patient's perception of pain and ways it can be managed. *Pain Manag Nurs* 2000;1:2–7. [PubMed: 11710146]

10. Heidrich SM, Egan JJ, Hengudomsb P, Randolph SM. Symptoms, symptom beliefs, and quality of life of older breast cancer survivors: a comparative study. *Oncol Nurs Forum* 2006;33:315–322. [PubMed: 16518447]
11. Dawson R, Sellers DE, Spross JA, Jablonski ES, Hoyer DR, Solomon MZ. Do patients' beliefs act as barriers to effective pain management behaviors and outcomes in patients with cancer-related or noncancer-related pain? *Oncol Nurs Forum* 2005;32:363–374. [PubMed: 15759073]
12. Sarkisian CA, Hays RD, Mangione CM. Do older adults expect to age successfully? The association between expectations regarding aging and beliefs regarding healthcare seeking among older adults. *J Am Geriatr Soc* 2002;50:1837–1843. [PubMed: 12410903]
13. Maly RC, Leake B, Silliman RA. Breast cancer treatment in older women: impact of the patient-physician interaction. *J Am Geriatr Soc* 2004;52:1138–1145. [PubMed: 15209652]
14. Vivar CG, McQueen A. Informational and emotional needs of long-term survivors of breast cancer. *J Adv Nurs* 2005;51:520–528. [PubMed: 16098169]
15. Lerman C, Daly M, Walsh WP, et al. Communication between patients with breast cancer and health care providers. Determinants and implications. *Cancer* 1993;72:2612–2620. [PubMed: 8402483]
16. Ory M, Kinney Hoffman M, Hawkins M, Sanner B, Mockenhaupt R. Challenging aging stereotypes: strategies for creating a more active society. *Am J of Prev Med* 2003;25:164–171. [PubMed: 14552941]
17. Schroevers M, Ranchor AV, Sanderman R. Adjustment to cancer in the 8 years following diagnosis: a longitudinal study comparing cancer survivors with healthy individuals. *Soc Sci & Med* 2006;63:598–610. [PubMed: 16597479]
18. Avis NE, Crawford S, Manuel J. Quality of life among younger women with breast cancer. *J Clin Oncol* 2005;23:3322–3330. [PubMed: 15908646]
19. Stava CJ, Lopez A, Vassilopoulou-Sellin R. Health profiles of younger and older breast cancer survivors. *Cancer* 2006;107:1752–1759. [PubMed: 16967441]
20. Vacek PM, Winstead-Fry P, Secker-Walker RH, Hooper GJ, Plante DA. Factors influencing quality of life in breast cancer survivors. *Qual Life Res* 2003;12:527–537. [PubMed: 13677497]
21. Yancik R, Wesley MN, Ries LA, Havlik RJ, Edwards BK, Yates JW. Effect of age and comorbidity in postmenopausal breast cancer patients aged 55 years and older. *JAMA* 2001;285:885–892. [PubMed: 11180731]
22. Bower JE, Ganz PA, Desmond KA, Rowland JH, Meyerowitz BE, Belin TR. Fatigue in breast cancer survivors: occurrence, correlates, and impact on quality of life. *J Clin Oncol* 2000;18:743–753. [PubMed: 10673515]
23. Heidrich SM, Brown R, Egan JJ, et al. An Individualized Representational Intervention to improve Symptom management (IRIS) in older breast cancer survivors: three pilot studies. *Oncol Nurs Forum*. in press
24. Soper, DS. *Statistics Calculators*. [September 10, 2008].
25. Duke University Center for the Study of Aging and Human Development. *Multidimensional Functional Assessment: The OARS Methodology*. Durham, NC: Duke University; 1978.
26. Heidrich SM. The self, health, and depression in elderly women. *West J Nurs Res* 1994;16:544–555. [PubMed: 7992492]
27. Gunnarsdottir S, Donovan HS, Serlin RC, Voge C, Ward S. Patient-related barriers to pain management: the Barriers Questionnaire II (BQ-II). *Pain* 2002;99:385–396. [PubMed: 12406513]
28. Nunnally, JC.; Bernstein, IH. *Psychometric theory*. New York: McGraw Hill; 1994.
29. Ware, JE., Jr; Kosinski, M.; Keller, SD. *SF-12: how to score the SF-12 physical and mental health summary scales*. Boston: The Health Institute, New England Medical Center; 1995.
30. Schlenk EA, Erlen JA, Dunbar-Jacob J, et al. Health-related quality of life in chronic disorders: a comparison across studies using the MOS SF-36. *Qual Life Res* 1998;7:57–65. [PubMed: 9481151]
31. Irwin M, Artin KH, Oxman MN. Screening for depression in the older adult: criterion validity of the 10-item Center for Epidemiological Studies Depression Scale (CES-D). *Arch Intern Med* 1999;159:1701–1704. [PubMed: 10448771]
32. Spielberger, CD.; Gorsuch, RL.; Lushene, RE. *STAI manual for the State-Trait Anxiety Inventory*. Palo Alto, CA: Consulting Psychologists; 1970.

33. Mayer DK, Terrin NC, Kreps GL, et al. Cancer survivors information seeking behaviors: a comparison of survivors who do and do not seek information about cancer. *Patient Educ Couns* 2007;65:342–350. [PubMed: 17029864]
34. Towsley GL, Beck SL, Watkins JF. “Learning to live with it”: coping with the transition to cancer survivorship in older adults. *J Aging Stud* 2007;21:93–106.
35. Ryan EB, Butler RN. Communication, aging, and health: toward understanding health provider relationships with older clients. *Health Commun* 1996;8:191–197.
36. Morgan R, Pendleton N, Clague JE, Horan MA. Older people's perceptions about symptoms. *Br J Gen Pract* 1997;47:427–430. [PubMed: 9281869]

Table 1

Demographic Characteristics, Health, and Breast Cancer History (N=61)

Variables	Mean	SD	range	n	%
Demographic characteristics					
Age (years)	71	5.2	65 - 86	1	1.6
Education (years)	15	2.7	10 - 23	20	32.8
Less than high school				10	16.4
High school graduate				30	49.2
Some college					
College graduate and over					
Income (\$)				1	1.6
< 10,000				5	8.2
10,000-19,999				11	18.0
20,000-29,999				5	8.2
30,000-39,999				30	49.2
40,000 or more				9	14.8
Missing					
Ethnicity				59	96.7
Caucasian				2	3.3
Hispanic or Latino					
Marital status				39	63.9
Married				14	23.0
Widowed				5	8.2
Divorced or separated				3	4.9
Never married					
Living arrangement				18	29.5
Live alone				43	70.5
Live with someone else					
Health history					
Number of chronic illnesses	3	1.3	1 - 6		
Number of symptoms	17	6.9	5 - 30		
Symptom bother	1.11	0.6	0.2 - 2.9		
Breast cancer history					
Years since cancer diagnosis	7	8	1 - 35		
Breast cancer treatments					
Mastectomy				30	49.2
Lumpectomy				30	49.2
Radiation				34	55.7
Chemotherapy				13	21.3

Table 2

Number and Percentage of Older Cancer Survivors (N=58) Reporting Negative Attitudes from HCPs and Difficulties in Communicating about Symptoms

Items	n	%
Communication Attitudes		
You shouldn't be so concerned, worried, or anxious about breast cancer now.	7	12.1
You're better off than a lot of women who have had breast cancer.	8	13.8
You should be thankful you've lived as long as you have.	4	6.9
A lot of women with breast cancer are worse off than you.	7	12.1
Compared to other women with breast cancer, your problems are minor.	7	12.1
It's not necessary for you to know the details about your condition.	6	10.3
You're worrying too much.	5	8.6
Communication Difficulties		
Worry that I am ignoring symptoms that may be serious.	10	16.9
Worry that I will be labeled a "problem patient" or "neurotic" if I talk about my symptoms or concerns.	4	6.8
Not knowing for sure which symptoms to tell my doctor about.	16	27.1
Not knowing if my doctors are communicating with each other about my health care.	14	25.4
Not knowing which doctor I should talk to about different symptoms.	17	30.5
Not feeling comfortable talking about my symptoms because they may seem minor, and I don't want to be a "complainer."	9	15.3

NOTE: N = 58 due to 3 missing values.

Table 3
 Summary of Hierarchical Regression Analyses for Barriers to Symptom Management Predicting Physical QOL (N=57)

		PCS			
		B	SE	β	R^2
Covariates					
Number of Chronic Illnesses		-1.20	1.04	-0.13**	0.304**
Symptom Bother		-10.14	2.35	-0.50**	
Symptom Management Beliefs (SMBQ)		-0.43	1.04	-0.05	0.002
Covariates					
Number of Chronic Illnesses		-1.39	1.08	-0.15**	0.304**
Symptom Bother		-10.27	2.40	-0.50**	
Communication Attitudes (CommA)		0.76	0.93	0.10	0.009
Covariates					
Number of Chronic Illnesses		-1.22	1.06	-0.14	0.304**
Symptom Bother		-10.23	2.40	-0.50**	
Communication Difficulties (CommD)		0.08	0.90	0.01	0.000

**
 $P < .01$

NOTE: N = 57 due to 4 missing values.

Table 4

Summary of Hierarchical Regression Analyses for Barriers to Symptom Management Predicting Psychosocial QOL (N=57)

	MCS					Depression					Anxiety				
	B	SE	β	ΔR^2	R^2	B	SE	β	ΔR^2	R^2	B	SE	β	ΔR^2	R^2
Covariates															
Number of Chronic Illnesses	-0.06	0.65	-0.01	0.197**	0.204	0.04	0.11	0.04	0.332**	0.395	0.33	0.65	0.06	0.273**	0.308
Symptom Bother	-5.16	1.47	-0.43**	0.007		1.25	0.25	0.54**			6.19	1.46	0.49**		
Symptom Management Beliefs (SMBQ)	-0.46	0.65	-0.09			0.26	0.11	0.25*	0.063*		1.08	0.65	0.19	0.034	
Communication Attitudes															
SMBQ															
Number of Chronic Illnesses	0.23	0.65	0.04	0.197**	0.287	0.03	0.12	0.03	0.332**	0.341	0.35	0.69	0.06	0.273**	0.274
Symptom Bother	-5.11	1.43	-0.43**	0.090*		1.29	0.27	0.56**			6.35	1.54	0.50**	0.001	
Communication Attitudes	-1.43	0.55	-0.31*			0.08	0.10	0.09	0.008		0.12	0.59	0.03		
Communication Difficulties															
Covariates															
Number of Chronic Illnesses	-0.01	0.64	0.00	0.197**	0.264	0.04	0.12	0.04	0.332**	0.367	0.35	0.67	0.06	0.273**	0.279
Symptom Bother	-4.94	1.44	-0.42**	0.067*		1.25	0.26	0.54**			6.27	1.52	0.49**	0.006	
Communication Difficulties	-1.20	0.54	-0.26			0.17	0.10	0.19	0.034		0.37	0.57	0.08		

* $P < .05$,

** $P < .01$

NOTE: N = 57 due to 4 missing values.