Relationships Between Three Beliefs as Barriers to Symptom Management and Quality of Life in Older Breast Cancer Survivors

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Older adult breast cancer survivors are a rapidly growing segment of the cancer survivor population. Women older than age 75 years have the highest incidence rates for breast cancer, with an overall survival rate of 85% (National Cancer Institute, 2009). Therefore, given the aging population, breast cancer will become one of the most prevalent chronic illnesses in older adult women (Ceber, Soyer, Ciceklioglu, & Cimat, 2006).

Effective management of symptoms is a critical component of the quality of life of older adult cancer survivors (Deimling, Bowman, & Wagner, 2007; Heidrich, Egan, Hengudomsub, & Randolph, 2006; Heidrich et al., 2009). Experiencing and managing symptoms in older adult cancer survivors is challenging because symptoms can be caused by late effects of cancer and cancer treatment (Deimling et al., 2007) as well as the physiologic declines associated with normal aging and age-related health problems (Heidrich et al., 2009). However, little attention has been paid to identifying or explaining the specific symptom management issues faced by older adult breast cancer survivors.

Beliefs about health problems, such as symptoms, play a role as "a filter and interpretive schema" that drives behaviors in response to the problems (Hagger & Orbell, 2003, p. 145). Beliefs are affected by sociocultural context (Leventhal, Brissette, & Leventhal, 2003) and, therefore, beliefs about aging, particularly age-related stereotypes, also may serve as an interpretive schema through which symptom management of older adults is filtered. Ageist stereotypes are defined as negative beliefs, discriminatory attitudes, and norms about older individuals or groups because of their age (Nelson, 2002). Empirical evidence indicates that older adults also share ageist stereotypes (Morgan, Pendleton, Clague, & Horan, 1997; Nussbaum, Baringer, & Kundrat, 2003). For example, older adult

Purpose/Objectives: To describe relationships among perceived barriers to symptom management and quality of life and to test the mediating role of perceived communication difficulties on the relationships between other perceived barriers to symptom management and quality of life in older adult breast cancer survivors.

Design: Cross-sectional descriptive-correlational design using baseline data from a randomized, controlled trial that tested the efficacy and durability of the individualized representational intervention in reducing symptom distress and improving quality of life in older adult breast cancer survivors.

Setting: The community, an oncology clinic, and a state tumor registry.

Sample: 190 older adult breast cancer survivors ($\overline{X}$ age = 70.4 years) who were an average of 3.3 years after breast cancer diagnosis.

Methods: Path analysis using Mplus, version 5.1.

Main Research Variables: Negative beliefs about symptom management (Symptom Management Beliefs Questionnaire [SMBQ]), perceived negative attitudes from healthcare providers (Communication Attitudes [CommA]), perceived communication difficulties (CommD), and quality of life.

Findings: Significant direct effects of SMBQ and CommA on CommD were found after controlling for age, number of health problems, and number of symptoms. CommD was a significant mediator of the effects of CommA on quality of life after controlling for the covariates. SMBQ had significant total effects on quality of life after adjusting for the covariates but was not mediated by CommD.

Conclusions: Patient-provider communication is an important factor in the quality of life of older adult breast cancer survivors.

Implications for Nursing: Developing and testing nursing interventions focusing on enhancing both positive beliefs about symptom management and effective communication in old age is suggested.

Knowledge Translation: Older adults and healthcare providers must overcome stereotyped beliefs about aging that may affect self-care and health outcomes for this population. Older adults must be allowed to express their views and emotions about aging.

cancer survivors attributed many of their symptoms to aging rather than to cancer (Heidrich et al., 2006; Royer, Phelan, & Heidrich, 2009). When beliefs about aging are negative, they may have detrimental effects on the older adult's health outcomes, such as physical and psychological health (Levy, Ashman, & Slade, 2009; Sánchez Palacios, Trianes Torres, & Blanca Mena, 2009; Yeom & Heidrich, 2009) and longevity (Levy, Slade, Kunkel, & Kasl, 2002).

Age-related stereotypes may be shared by healthcare providers (HCPs) in part because of their experience with fragile older adult patients (Greene & Adelman, 2003). Empirical studies have reported that when HCPs interact with older adults, they tend to talk less, provide oversimplified information (Nussbaum et al., 2003; Siminoff, Graham, & Gordon, 2006), and belittle patients' concerns (Dawson et al., 2005). These communication attitudes of HCPs can have a negative effect on an older person's health and quality of life (Mandelblatt, Figueiredo, & Cullen, 2003; Yeom & Heidrich, 2009).

On the other hand, when communication between HCPs and older adult patients is positive, research has found better adherence to medical treatment (Mandelblatt et al., 2003), higher satisfaction with care (Stewart, Meredith, Brown, & Galajda, 2000), and higher overall quality of life (Liang et al., 2002; Stewart et al., 2000). Communication with HCPs about symptoms is an important aspect of effective symptom management in that it provides the opportunity for either reinforcing or weakening barriers to symptom management.

The aims of the current study were to investigate (a) whether negative beliefs about symptom management and perceived negative attitudes from HCPs are related to more perceived difficulty communicating about symptoms in older adult breast cancer survivors, and (b) whether the perception of communication difficulties mediates the influence of either negative beliefs about symptoms or perceived negative attitudes from HCPs on quality of life in older adult cancer survivors.

Conceptual Framework

A conceptual model of this study was developed based on Leventhal et al.'s (2003) Common Sense Model (CSM) as well as empirical evidence about aging-related beliefs and health outcomes in older adults. The CSM is based on the idea that individuals have common sense beliefs about a health threat that are shaped by the broader sociocultural context, by interactions with others (e.g., HCPs), and by experience. Those beliefs guide an individual's coping behaviors in response to the health threat which, in turn, influence health outcomes such as quality of life (Leventhal et al., 2003). Beliefs older adults have about experiencing

and managing symptoms (in this case related to aging and breast cancer) are formed in part by ageist stereotypes in the broader culture (see Figure 1). Yeom and Heidrich (2009) found that aging-related beliefs of older cancer survivors were related to poorer quality-of-life outcomes, suggesting that these beliefs might work as perceptual barriers to symptom management.

The specific beliefs investigated in this study were (a) negative beliefs about symptom management, defined as negative or stereotyped beliefs about experiencing or managing symptoms in old age, (b) perceived negative attitudes from HCPs, defined as negative and unsupportive attitudes of HCPs that older adults have perceived in communicating with their HCPs, and (c) perceived communication difficulties, defined as the difficulties that older adults perceive in knowing when and how to report symptoms to their HCPs. According to this model, negative beliefs about symptom management and perceived negative attitudes of HCPs led to difficulties in communicating with HCPs about health problems. Not being able to communicate about symptoms resulted in less effective symptom management, leading to lower quality of life. Therefore, perceived communication difficulties mediate the influence of the other two beliefs on quality of life in older adult cancer survivors.

Background
Ageist Beliefs About Health

A number of studies have reported negative and sometimes erroneous beliefs about health and aging that are held by older adults. Older adults, including cancer survivors, tend to attribute their health problems to normal aging and to report that symptoms in old age are inevitable and incurable and, therefore, without a need for a medical evaluation for possible causes (Heidrich et al., 2006; Morgan et al., 1997). Royer et al. (2009) found that older breast cancer survivors described their symptoms as incurable and not controllable. Dawson et al. (2005) compared older and younger patients with cancer and found that older patients were more likely than younger patients to believe that medication could not control their pain. A comparative study of symptom beliefs between older women who had breast cancer and those without a cancer history found that older women, regardless of breast cancer history, attributed their symptoms to aging rather than cancer or other diseases (Heidrich et al., 2006).

Negative beliefs about aging may have detrimental effects on the management of health problems in older adult populations. Older adults who view functional declines as a part of the normal aging process are less likely to seek care (Sarkisian, Hays, & Mangione, 2002), to engage in preventive behaviors such as exercise and
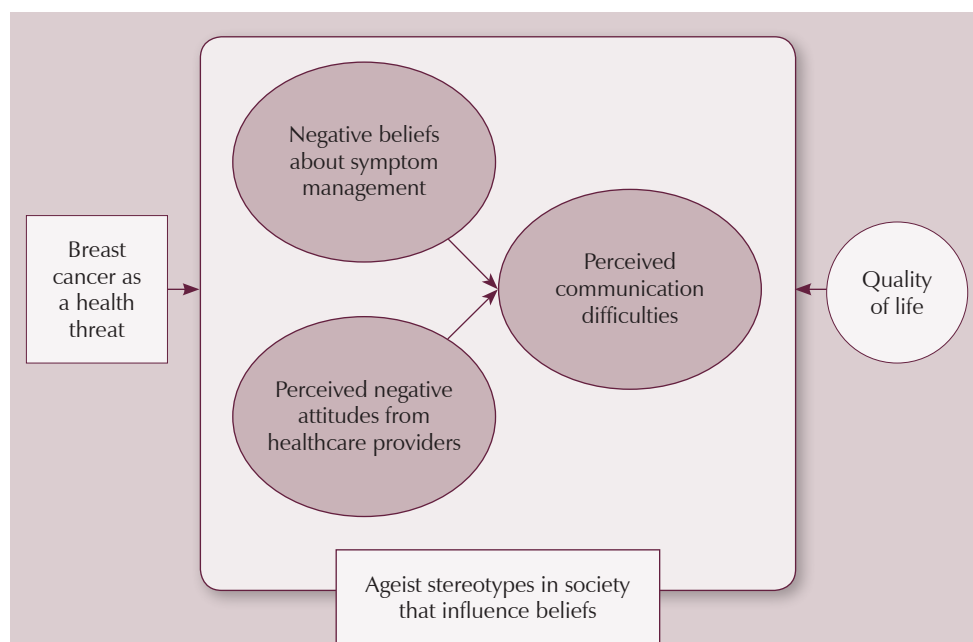
Figure 1. Conceptual Model of the Hypothesized Relationships Among Three Beliefs as Barriers to Symptom Management and Quality of Life

to undervalue the importance of communication in caring for older patients, whereas those with more positive views about aging placed more importance on having conversations with older adult patients than with only providing basic care such as bathing and toileting (Armstrong-Esther et al., 1989).

Communication Difficulties

Communication with HCPs is an important route for older adult patients when it comes to interpreting symptoms, shaping beliefs about symptom management, and, consequently, determining additional reactions to symptoms (Nussbaum et al., 2003). However, ageist self-stereotypes, erroneous beliefs about being a "good patient," or unsupportive attitudes of HCPs may act as barriers to older adult patients with cancer who report symptoms. Older adults explained the reasons for not reporting their health problems to HCPs as "no big deal," "nobody cares," "nothing can be done about it," and "don't want to bother people" (Brody & Kleban, 1981; Stoller & Forster, 1994). Similar attitudes have been found in patients with cancer, such as "a good patient does not talk about their symptoms" and "reporting noncancer-related symptoms may distract the HCP" (Gunnarsdottir, Donovan, Serlin, Voge, & Ward, 2002).

Empirical findings support the importance of communication for better health outcomes in older adult patients. A study by Dawson et al. (2005) showed that, regardless of the sources of pain (cancer or noncancer related), older adult patients' willingness to take pain medications was dependent on whether they had communicated with HCPs about fears of addiction from pain medications. Mandelblatt et al. (2003) found that whether older adult patients communicated with HCPs about their pain was related to their satisfaction with care, and HCPs' attitudes were more predictive of patients' quality of life than the treatment they received.

Yeom and Heidrich (2009) examined the relationships among three beliefs as barriers to symptom management and quality of life in 61 older adult breast cancer survivors ($\overline{X}$ age = 71 years). Significant positive correlations (r range = 0.4–0.47) existed among negative beliefs about symptom management, perceived negative

healthy diet, or to adhere to medical treatments (Levy & Myers, 2004).

Negative Beliefs About Aging and Attitudes of Healthcare Providers

HCPs are not free from ageist stereotypes (Nussbaum et al., 2003), and may even be more vulnerable to ageist stereotypes because of their increased exposure to fragile older adult patients (Greene & Adelman, 2003). Some examples of beliefs related to ageist stereotypes of HCPs are that older adults are too old to try a new treatment, older adults are unwilling to try new treatments, and treatment may be ineffective in older people (Kagan, 2008; Morgan et al., 1997). HCPs also tended to regard caring for older adult patients who have typical aging-related symptoms as less rewarding than caring for patients who have disease-based symptoms (Baker, 1984).

Previous research has indicated negative attitudes by HCPs in communicating with older adult patients. HCPs talked less with these patients and provided oversimplified information to them compared to younger patients (Nussbaum et al., 2003; Siminoff et al., 2006). In addition, older adult patients reported that they had been told that they "should be thankful to be alive" or "just learn to live with it" (Beisecker, 1988; Cegala, Post, & McClure, 2001). In addition, previous studies have supported that ageist stereotypes of HCPs could work as a barrier to effective communication about symptoms. Armstrong-Esther, Sandilands, and Miller (1989) found that nurses with more negative perceptions about aging were likely

attitudes of HCPs, and perceived communication difficulties about symptoms. In regression analyses, negative beliefs about symptom management were a significant predictor of depression ($\beta = 0.25$, $p < 0.05$), and both perceived negative attitudes from HCPs and perceived communication difficulties were significant predictors of mental quality of life ($\beta = -0.31$, $p < 0.05$; $\beta = -0.26$, $p < 0.05$, respectively) after adjusting for the number of health problems and the degree of symptom bother. However, additional investigation of multivariate relationships among the three beliefs and quality of life was limited because of the small number of participants.

These studies suggest that older adults' ageist self-stereotypes influence their beliefs about their symptoms and whether they attempt to manage or seek care for their symptoms. In addition, ageist stereotypes held by HCPs may influence how they communicate with older adult patients about their health problems and the treatment that is provided. Both may lead to communication difficulties between older adult patients and HCPs regarding health problems. Difficulties communicating with HCPs may result in less effective symptom management because erroneous and stereotyped beliefs about aging can be strengthened during healthcare encounters. The result is poor symptom management and lower quality of life for the patients.

The current study examined two hypotheses: Negative beliefs about symptom management and perceived negative attitudes from HCPs will predict perceived communication difficulties about symptoms in older adult breast cancer survivors, and the effects of negative beliefs about symptom management and perceived negative attitudes from HCPs on quality of life will be mediated by perceived communication difficulties.

Methods

Design

This study was a descriptive correlational study. A secondary data analysis was conducted using baseline data from a randomized, controlled trial testing the efficacy and durability of an individualized representational intervention in reducing symptom distress and improving quality of life in older adult breast cancer survivors.

Sample and Procedure

To be eligible for the parent study, women had to be aged 65 years or older, at least one year postdiagnosis for local or regional breast cancer, at least three months post-treatment (surgery, chemotherapy, or radiation therapy, but could be taking hormone therapies), without metastatic cancer or recurrence of breast cancer or other cancer diagnosis (except nonmelanoma skin cancer), and without cognitive impairment or physical frailty that could preclude participation.

The University of Wisconsin-Madison Health Sciences Institutional Review Board approved the parent study. Participants were recruited from multiple sites, including the state tumor registry, the community, and oncology clinics in the Midwestern United States. Baseline measures were collected by mail and at a baseline telephone interview. The sample for the parent study was 190. In a power analysis with alpha as 0.05, a small effect size (0.2), and a sample size of 190 using the LISPOWER program, power was 0.99.

Measures

Demographic, health, and breast cancer information: Respondents completed a demographic questionnaire asking age, education, income, ethnicity, marital status, and living arrangements.

Health status was assessed with the numbers of health problems, symptoms, and medications. The number of health problems was assessed with the 20-item self-report checklist adapted from the **Wisconsin Longitudinal Study of Families–Illness and Medical Conditions**. Respondents reported on whether or not they had been told by HCPs that they had any of the 20 health problems listed, and the total number of the health problems was then computed.

The number of symptoms was assessed with the 37-item **Symptom Bother–Revised (SB-R)** instrument (Heidrich et al., 2006). The instrument includes 37 symptoms common to aging, age-related health problems, and late effects of cancer and its treatment. Whether a respondent had each symptom was assessed (0 = "don't have" and 1 = "have"), and the total number of symptoms was calculated. Construct validity of the SB-R has been demonstrated in previous studies that found significant relationships with quality of life and health conditions (Heidrich et al., 2006, 2009). Internal consistency in this study (Cronbach alpha) was 0.89. In addition, respondents were asked to list names of their prescription and over-the-counter medications, and the total number of medications was calculated.

Information about breast cancer history included months since diagnosis, types of cancer treatment (i.e., mastectomy, lumpectomy, radiation, chemotherapy, lymph node removal or dissection, or sentinel node biopsy), past and current hormone therapies, and months since the last cancer treatment.

Beliefs as barriers to symptom management: Three beliefs that may act as barriers to symptom management were measured with three instruments: **Symptom Management Beliefs Questionnaire (SMBQ)**, **Communication Attitudes (CommA)**, and **Communication Difficulties (CommD)**. All three instruments were found to be reliable (Kuder-Richardson Formula 20 [KR-20] > 0.7), and construct validity was supported by significant intercorrelations among the three scales as well as significant

correlations with measures of perceived health and quality of life (Heidrich et al., 2009; Yeom & Heidrich, 2009).

The SMBQ is a 13-item scale to assess the extent to which an older adult respondent holds negative beliefs about experiencing or managing symptoms (Heidrich et al., 2009). The items were developed by adapting some items from **Ward's Barriers Questionnaire II** (Ward, Carlson-Dakes, Hughes, Kwekkeboom, & Donovan, 1998), which has been used to measure barriers to analgesic use for cancer pain and by including items reflecting negative stereotypes about aging. Respondents rated the extent to which they agree with each item on a five-point Likert-type scale, from 0 (do not agree at all) to 5 (agree very much). A mean score was computed and higher scores indicated more negative beliefs about managing symptoms. Internal consistency in this sample (Cronbach alpha) was 0.8.

The CommA is a 10-item dichotomous scale ("yes" = 1, "no" = 0) measuring the extent to which an older adult respondent has perceived ageist remarks or attitudes from their HCPs. The items were developed from the empirical evidence on ageist stereotypes and from pilot studies about adults and older cancer survivors (Heidrich et al., 2009). The original CommA (Yeom & Heidrich, 2009) had seven items that were focused on breast cancer issues such as "compared to other women with breast cancer" and "a lot of women with breast cancer." Based on results from Heidrich et al. (2009), three new items were added that were not breast cancer specific but were frequently mentioned regarding communication with HCPs. They were, "Feeling a symptom you reported was not dealt with to your satisfaction," "Being told not much can be done about one or more of your symptoms because they're part of getting older," and "Being told that you'll have to learn to live with it because your symptom(s) are part of getting older." The CommA, with the three new items, was reviewed for content validity by three older adult and geriatric nurse practitioners. A sum score of 10 items was computed, and higher scores indicated that respondents have perceived more negative attitudes from HCPs. Internal consistency for the 10-item dichotomous scale in this sample (KR-20) was 0.78.

The CommD is a six-item dichotomous scale ("yes" = 1, "no" = 0) that assesses the perception that communicating with HCPs about symptoms is difficult. The scale was developed from the literature on ageist stereotypes and from pilot studies with adults and older cancer survivors (Heidrich et al., 2009). A sum score of six items was computed, and higher scores indicated that respondents perceived more difficulties communicating with HCPs about their symptoms. Internal consistency for the six-item dichotomous scale in this sample (KR-20) was 0.8.

Reliability and validity of all three instruments has been reported (Heidrich et al., 2009; Yeom & Heidrich,

2009). Construct validity of the SMBQ, CommA, and CommD was examined by testing the associations among these three measures. The three scales should be correlated because all three tap perceptions and beliefs about symptom management. However, the relationships should be small to moderate because each scale taps a different type of belief or perception. The following pattern of correlations was found in previous studies: between the SMBQ and CommA (r = 0.25–0.4, p < 0.05), between the SMBQ and CommD (r = 0.32–0.44, p < 0.05), and between CommA and CommD (r = 0.32–0.47, p < 0.05).

Quality of life: In this study, quality of life was conceptualized broadly to capture the important dimensions of quality of life for older adults, which include physical quality of life, mental quality of life, purpose in life (PIL), and positive relations (PR) with others.

Physical quality of life and mental quality of life were measured with the **Physical Component Summary (PCS)** and **Mental Component Summary (MCS)** scores of the **SF-36®** scale (Ware & Sherbourne, 1992). The PCS and MCS scores were computed by using specific scoring instructions resulting in standardized scores ranging from 0–100; higher scores indicate higher physical functioning, mental functioning, and quality of life. The SF-36 has been used in a number of clinical trials with patients with breast cancer as a quality-of-life measure. The validity and reliability of both the PCS and MCS have been demonstrated in numerous studies in both general and disease-specific (including cancer) populations (Schlenk et al., 1998). The reliability in this study was $\alpha = 0.93$ (PCS) and $\alpha = 0.95$ (MCS).

PIL and PR with others are two of the six core dimensions of psychological well-being proposed by Ryff (1989). The dimensions were derived from adult development theory and empirical evidence about their significance for physical and mental health outcomes in the older adult population (Ryff & Keyes, 1995).

PIL refers to having a sense that one's life is meaningful and purposeful even under threats (Ryff, 1989). Purpose is related conceptually to spirituality and to "finding meaning," both of which are related to adaptation to breast cancer (Tomich & Helgeson, 2002). PIL was measured as a 14-item scale, and respondents were asked to respond how strongly they agreed or disagreed with each statement as a six-point scale ranging from 1 (strongly disagree) to 6 (strongly agree). Negative items were reverse coded, and a mean score of the 14 items was computed. Higher scores indicated higher levels of a sense of purpose in life.

PR with others is characterized as having warm and trusting interpersonal relations and being concerned about others' welfare (Ryff, 1989). PR with others was measured as a 14-item scale, and respondents were asked to respond how strongly they agreed or disagreed

with each statement as a six-point scale ranging from 1 (strongly disagree) to 6 (strongly agree). Negative items were reverse coded, and a mean score of the 14 items was computed. Higher scores indicated having satisfying and trusting relationships with others.

The validity of PIL and PR have been demonstrated by significant relationships with other indices of psychological well-being in a number of cross-sectional, longitudinal, and cross-cultural studies in older adult populations (Schnoll, Knowles, & Harlow, 2002; Tomich & Helgeson, 2002). Both scales are reliable (α range = 0.86–0.93; range of test-retest reliability for six weeks =

0.81–0.88) (Ryff & Keyes, 1995). The reliability of the PIL and PR in this study (α) was 0.88 for each.

Data Analysis

Preliminary analyses and descriptive statistics were conducted using SPSS®, version 16, to describe the sample, measures, and correlations among the main study variables.

Hypotheses were examined with path analysis using Mplus, version 5.1. The CommD values that were measured with dichotomous variables were transformed to an appropriate form for multivariate testing using square root transformation. The measurement errors for the composite variables were addressed by using the Composite Indicator Structure Equational Modeling, which is a way to make the estimate more accurate by adjusting for measurement error of a composite scale (Bandalos, 2002).

Results

Sample

Table 1 shows the demographic characteristics, health status, and breast cancer history of participants. The data reflects the population in the midwestern region of the United States where recruitment took place.

Participants reported an average of six health problems other than cancer and 18 symptoms. The most frequently reported health problems were arthritis (n = 142, 75%), high cholesterol (n = 113, 60%), and high blood pressure (n = 110, 58%). The most frequently reported symptoms were itching (n = 179, 94%), stiffness (n = 166, 87%), pain (n = 151, 80%), aching (n = 151, 80%), and fatigue (n = 148, 78%).

Participants had been diagnosed with breast cancer an average of 40 months before, and 86% of the participants had been diagnosed less than five years before. The majority of the participants had undergone radiation therapy or lumpectomy, and more than two-thirds of the participants were currently receiving hormone therapy. Average months since last treatment (not including hormonal) was 34.8 months.

Beliefs and Quality of Life

Descriptive statistics for the SMBQ, CommA, and CommD scales indicate that participants had low levels of negative beliefs. The mean score of SMBQ was 1.55 (SD = 0.73, range = 0.17–4.46). The three items with the highest mean agreement were: "Many symptoms are just a normal part of getting older" ($\overline{X}$ = 3.75, SD = 1.12), "It is easier to put up with pain than with the side effects of some medications" ($\overline{X}$ = 2.56, SD = 1.45), and "The 'cure' for symptoms is often worse than the disease" ($\overline{X}$ = 2.03, SD = 1.49).

Table 2 shows frequencies and percentages of each item on the CommA and CommD scales. The mean

Table 1. Demographic Characteristics, Health Status, and Breast Cancer History (N = 190)

Characteristic	$\overline{X}$	SD	Range
Age (years)	70.4	5.3	65–97
Education (years)	14	2.6	0–23
Health status			
Number of health problems	5.9	2.5	2–14
Number of symptoms	17.8	7.5	3–37
Number of medications	8.5	3.7	0–21
Breast cancer history			
Months since cancer diagnosis	39.8	40.9	12–266
Months since last treatments	34.8	40.9	5–266

Characteristic	n	%
Education		
Less than high school	2	1
High school graduate	76	40
Vocational or technical school	39	21
College	38	20
Graduate or greater	34	18
Missing	1	1
Income ($)		
Less than 10,000	7	4
10,000–24,999	40	21
25,000–39,999	39	21
40,000 or more	84	44
Missing	20	11
Ethnicity		
Caucasian	178	94
African American and others	12	6
Marital status		
Married	111	59
Widowed	47	25
Divorced or separated	20	11
Never married	12	6
Living arrangement		
Lives alone	64	34
Lives with someone else	126	66
Breast cancer treatment[a]		
Radiation	135	71
Lumpectomy	129	68
Hormone therapy	129	68
Mastectomy	75	40
Chemotherapy	72	38

[a] Participants could choose more than one treatment type.
Note. Because of rounding, percentages may not total 100.

Table 2. Frequency and Percentage of Older Adult Breast Cancer Survivors Endorsing Items About Perceived Negative Attitudes From Healthcare Providers (N = 190)

Item	n	%
Communication Attitudes (CommA)		
Being told, "You're worrying too much."	74	39
Being told, "Compared to other women with breast cancer, your problems are minor."	38	20
Being told, "It's not necessary for you to know the details about your condition."	37	20
Hearing, "You should be thankful you've lived as long as you have."	35	18
Feeling a symptom you reported was not dealt with to your satisfaction.	30	16
Being told, "You shouldn't be so concerned, worried, or anxious about breast cancer now."	26	14
Being told that, "You'll have to learn to live with it because your symptom(s) are part of getting older."	24	13
Being told, "A lot women with breast cancer are worse off than you."	23	12
Being told, "Not much can be done about one or more of your symptoms because they're part of getting older."	11	6
Hearing, "You're better off than a lot of women who have had breast cancer."	8	4
Communication Difficulties (CommD)		
Not knowing which doctor I should talk to about different symptoms.	79	42
Not knowing for sure which symptoms to tell my doctor about.	72	38
Not knowing if my doctors are communicating with each other about my health care.	66	35
Not feeling comfortable talking about my symptoms because they may seem minor, and I don't want to be a "complainer."	52	27
Worry that I am ignoring symptoms that may be serious.	50	26
Worry that I will be labeled a "problem patient" or "neurotic" if I talk about my symptoms or concerns.	19	10

CommA score was 1.61 (SD = 2.06, range = 0–10), indicating that participants had perceived few negative attitudes from their HCPs. However, 60% percent (n = 114) of the participants reported at least one negative attitude on the CommA, and about 26% (n = 49) reported four or more negative attitudes. The most

frequently endorsed item was "You're worrying too much" (39%), followed by "Compared to other women with breast cancer, your problems are minor," "It's not necessary for you to know the details about your condition," and "You should be thankful you've lived as long as you have."

The mean CommD score was 1.78 (SD = 1.9, range = 0–6), indicating that participants had perceived few difficulties in communicating with HCPs about their symptoms. However, 116 participants (61%) reported at least one difficulty on the CommD, and 44 participants (23%) reported four or more difficulties. In addition, eight participants (4%) reported all six communication difficulties. The most frequently endorsed item was, "Not knowing which doctor I should talk to about different symptoms" (n = 79, 42%). Regarding difficulties, 72 participants (38%) reported, "Not knowing for sure which symptoms to tell my doctor about" and 66 (35%) said, "Not knowing if my doctors are communicating with each other about my health care."

For the measures of quality of life, the mean standardized score on the PCS (41.3, SD = 10.3, range = 16.3–59.7) was lower than the MCS (53.6, SD = 9.1, range = 22.0–69.1). The PCS score of the sample was slightly lower than the population norm for adults in the United States, aged 65–74 years ($\overline{X}$ = 43.7, SD = 11, range = 13–59) ((Ware, Snow, Kosinski, & Gandek, 2000). However, the MCS score in this study was slightly higher than the population norm for adults in the United States, aged 65–74 years ($\overline{X}$ = 52.1, SD = 9.53, range = 19–70) (Ware et al., 2000). The means for the PIL (4.88, SD = 0.81, range = 1.86–6) and PR scales (5.13, SD = 0.79, range = 2.93–6) indicate high levels of psychological well-being. These four scores reflect overall high quality of life of the participants as expected in this community-dwelling sample (Robb et al., 2007).

Relationships Among Barriers to Symptom Management and Quality of Life

Bivariate correlations indicated that three beliefs were significantly, moderately, and positively related to each other: SMBQ and CommA (r = 0.4, p < 0.01), SMBQ and CommD (r = 0.44, p < 0.01), and CommA and CommD (r = 0.47, p < 0.01). Neither demographic characteristics nor breast cancer history were significantly correlated with any of the three beliefs. However, all three beliefs had significant and positive correlations with number of health problems (r range = 0.15–0.24, p < 0.05) and number of symptoms (r range = 0.27–0.36, p < 0.01).

The first hypothesis was tested by examining the direct effects of SMBQ and CommA on CommD after controlling for age, number of health problems, and number of symptoms. The direct paths for SMBQ (β = 0.86, b = 1.14, SE = 0.05, p < 0.00) and for CommA (β = 0.16, b = 0.2, SE = 0.08, p = 0.012) were significant,

supporting the first hypothesis. Negative beliefs about symptom management and perceived negative attitudes from HCPs were significant predictors of more communication difficulties.

The second hypothesis was tested by examining the indirect effects of SMBQ and CommA on each quality-of-life outcome separately, after controlling for age, number of health problems, and number of symptoms (see Table 3). Before testing the indirect effects, the direct effects of CommD on each quality-of-life outcome were tested. CommD had significant direct negative effects on all four dimensions of quality of life (i.e., PCS: $\beta = -0.15$, b = −0.6, SE = 0.3, $p < 0.05$; MCS: $\beta = -0.2$, b = −0.73, SE = 0.26, $p < 0.01$; PIL: $\beta = -0.26$, b = −0.08, SE = 0.02, $p < 0.01$; and PR: $\beta = -0.28$, b = −0.09, SE = 0.03, $p < 0.01$).

Mediating effects are shown when the indirect effects of SMBQ or CommA through CommD are significant. The second hypothesis was partially supported. For SMBQ, total effects of SMBQ on MCS ($\beta = -0.23$, p = 0.001), PIL ($\beta = -0.35$, $p < 0.001$), and PR ($\beta = -0.36$, $p < 0.001$) but not PCS were statistically significant, indicating that higher levels of SMBQ predicted lower levels of quality of life in three of four dimensions. However, none of the four indirect effects of SMBQ on quality of life through CommD were significant, indicating that CommD does not mediate the effects of SMBQ on quality of life.

For CommA, the total effects of CommA on four quality-of-life measures were not significant. However, the indirect effects for MCS ($\beta = -0.035$, p = 0.05), PIL ($\beta = -0.042$, $p < 0.05$), and PR ($\beta = -0.044$, $p < 0.05$) through CommD were significant (see Figure 2), indicating that CommD mediates the effects of CommA on MCS, PIL, and PR. In other words, the negative effects of ageist attitudes from HCPs on quality of life can be explained in part by their detrimental effects on older women's communication with their HCPs about symptom management.

Discussion

This study found that three beliefs that can be barriers to symptom management

Table 3. Summary of Total Effects of Symptom Management Beliefs Questionnaire (SMBQ) and Communication Attitudes (CommA) and Indirect Effects of SMBQ and CommA Through Communication Difficulties (CommD) on Four Dimensions of Quality of Life (N = 190)

Variable	Physical Component Summary			Mental Component Summary			Purpose in Life			Personal Relations		
	B	SE	β	B	SE	β	B	SE	β	B	SE	β
SMBQ	−0.031	0.805	−0.006	−1.122	0.686	−0.234	−0.231**	−0.063	−0.549**	−0.221**	0.065	−0.521**
CommD	−0.578	0.62	−0.148	0.027	0.528	0.008	0.073	0.048	0.228	0.059	0.05	0.184
Covariates												
• Age	−0.216	0.126	−0.111	−0.196	0.108	−0.109	−0.028**	0.01	−0.177**	−0.02*	0.01	−0.124*
• Number of health problems	−1.209**	0.302	−0.298**	−0.138	0.257	−0.037	−0.004	0.024	−0.013	0.036	0.024	0.109
• Number of symptoms	−0.327**	0.104	−0.265**	−0.558**	0.089	−0.487**	−0.038**	0.008	−0.381**	−0.037**	0.008	−0.362**
Total effect												
SMBQ via CommD	−0.688	0.387	−0.133	−1.091**	0.329	−0.227**	−0.148**	0.03	−0.352**	−0.154**	0.031	−0.363**
Indirect effect												
SMBQ via CommD	−0.658	0.706	−0.127	−0.031	0.602	−0.233	0.083	0.055	0.197	0.067	0.057	0.158
CommA	−0.01	0.338	−0.002	0.427	0.288	0.093	0.002	0.027	0.006	−0.009	0.028	−0.022
CommD	−0.579*	0.303	−0.153*	−0.8**	0.258	−0.22**	−0.084**	0.024	−0.263**	−0.089**	0.025	−0.278**
Covariates												
• Age	−0.216	0.127	−0.111	−0.22*	0.108	−0.122*	−0.03**	0.01	−0.192**	−0.022**	0.011	−0.136*
• Number of health problems	−1.208**	0.304	−0.297**	−0.197	0.26	−0.052	−0.006	0.025	−0.018	0.036	0.025	0.109
• Number of symptoms	−0.326**	0.105	−0.265**	−0.585**	0.089	−0.511**	−0.041**	0.008	−0.404**	−0.038**	0.009	−0.381**
Total effect												
CommA via CommD	−0.13	0.335	−0.026	0.265	0.29	0.058	−0.027	0.029	−0.036	−0.027	0.029	−0.067
Indirect effect												
CommA via CommD	−0.12	0.077	−0.024	−0.161*	0.602	−0.035*	−0.017*	0.008	−0.042*	−0.018*	0.009	−0.044*

* p < 0.05; ** p < 0.01

were associated with quality of life in older adult breast cancer survivors. In addition, the effect of perceived negative attitudes from HCPs on quality of life (i.e., MCS, PIL, and PR) was mediated by the difficulties cancer survivors experience in communicating with HCPs about symptoms and symptom management. As expected, perceiving negative attitudes of HCPs was associated with higher levels of communication difficulties with HCPs about symptoms, which, in turn, decreased quality of life. In addition, negative beliefs about symptom management were related to lower quality of life regardless of the level of perceived communication difficulties.

A number of possible explanations exist for some of these findings. Older adult breast cancer survivors who hold ageist self-stereotypes about experiencing and managing symptoms may be more likely to perceive negative attitudes of HCPs in medical encounters. Or, perceiving more negative attitudes of HCPs may instill or reinforce negative beliefs about symptom management. In either case, it suggests that these mechanisms may be important to address to improve patient-provider interactions and self-care on the part of older cancer survivors.

The current study found that more negative symptom management beliefs and HCP attitudes were related to higher perceived communication difficulties. That finding is particularly troubling because the perception of communication difficulties may serve as a barrier to seeking health care for symptom management or engaging in self-care behaviors in older adult cancer survivors, which may subsequently influence health outcomes and reduce quality of life.

The most frequently endorsed items from each of the three beliefs scales are notable: "Many symptoms are just a normal part of getting older" (SMBQ), "You're worrying too much" (CommA), and "Not knowing which doctor I should talk to about different symptoms" (CommD). The results are consistent with a previous study (Yeom & Heidrich, 2009). The first reflects ageist self-stereotypes that may impede seeking care for symptoms that they view as age-related or to discount the value of treatment. The second item implies that,

Direct and Indirect Effects of CommA on Purpose in Life Through CommD

Direct and Indirect Effects of CommA on Positive Relations Through CommD

Figure 2. Direct and Indirect Effects of Communication Attitudes (CommA) on Quality of Life Through Communication Difficulties (CommD)

although perhaps well meaning, some statements by HCPs can be perceived as dismissive of their real concerns. It also may reflect "beneficent ageism" on the part of HCPs. Beneficent ageism arises from misconceptions about aging and results in trivializing older adult patients' desires, capacities, and goals for treatment, but is meant with positive intent (Kagan, 2008). The third item indicates that, although older breast cancer survivors have multiple primary and specialty HCPs because of their numerous comorbidities, they have little guidance as to how to negotiate care. Experiencing symptoms may be worrisome because symptoms may or may not be cancer-related, and the ambiguity about the meaning of symptoms leads to uncertainty about
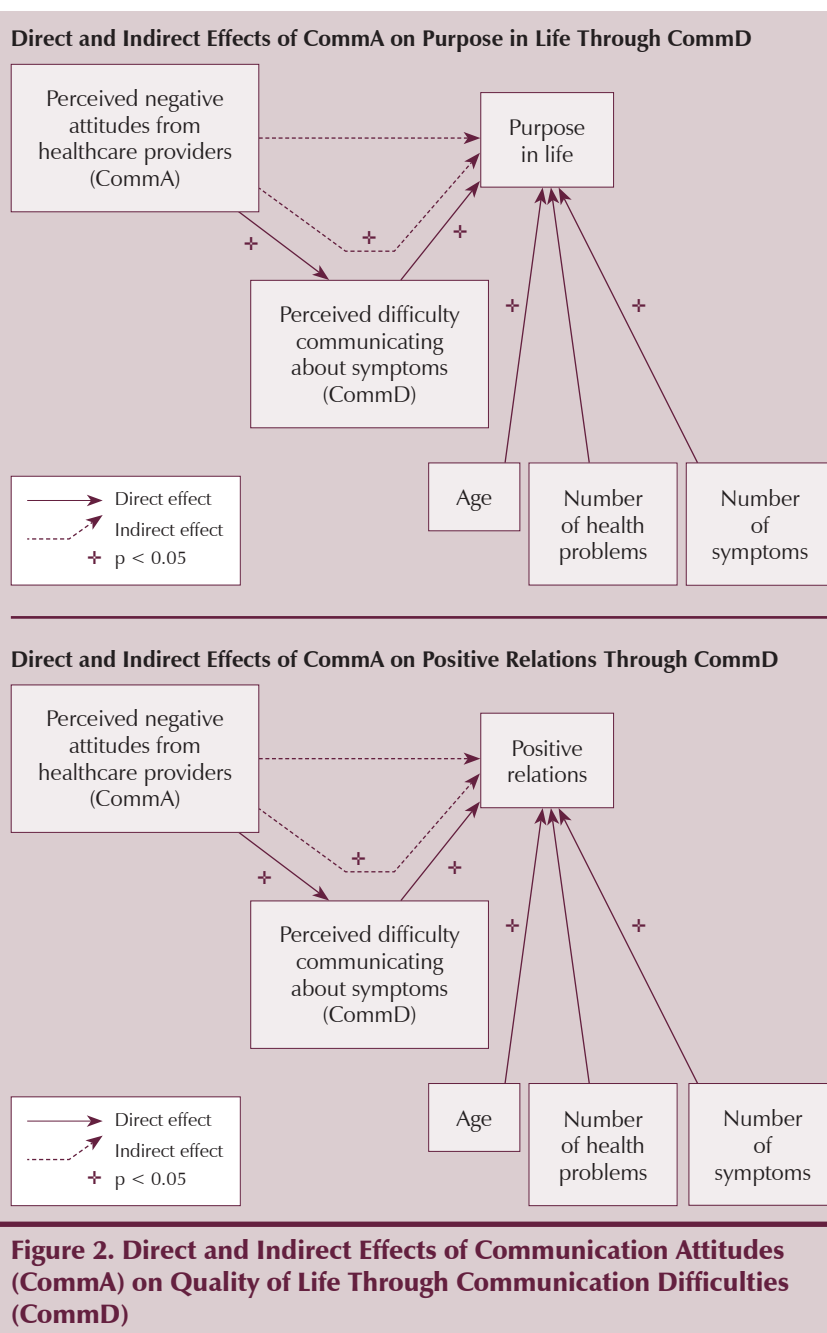
the appropriate self-care behavior. The importance of ambiguity about symptoms in old age deserves additional attention, particularly as it relates to improving self-care for symptom management.

Limitations

A number of limitations should be noted. Although recruitment was statewide and targeted toward enhancing participation of racial and ethnic minority women, participants were primarily Caucasian, limiting the generalizability of the findings. In addition, older adult women in this study may have been better off in terms of education and income than many older breast cancer survivors, and some received their care in an academic medical center. Beliefs as barriers to symptom management might be different in those less well off or in different healthcare settings.

This study investigated beliefs as barriers to symptom management but not actual behaviors for symptom management. The relations with actual self-care and effective symptom management need to be investigated in future studies.

Certainly differences in age-related beliefs about symptom management might exist for different genders, racial or ethnic groups, or older adults with other health problems. In a prior comparison study between the United States and Japan, cultural differences related to beliefs about health in older age have been found (Levy et al., 2009). Additional research should address these possible differences.

Finally, this study was cross sectional. As such, the interpretations of findings, particularly in terms of causality, are limited. Although the authors postulated that the three beliefs lower quality of life, it also is possible that the reverse effect is true. A lower quality of life may aggravate detrimental perceptions and attitudes about symptom management. These hypotheses would be important to address in future longitudinal research.

Conclusions and Implications

The current study found significant relationships between specific age-related beliefs about symptoms and symptom management on quality of life in older adult breast cancer survivors. The findings provide insights into future psychoeducational interventions that could be developed and tested to improve self-care for symptom management of older cancer survivors. Prior research has shown that older adults respond with enhanced adherence and better health outcomes when interventions provide strategies that participants could control along with psychological support (Gitlin et al., 2006). The results of this study also suggest the importance of providing opportunities for older adults to express their own views and emotions about aging. In addition, addressing stereotyped and erroneous beliefs about aging and their detrimental psychosocial consequences may be an important step for older adults. Exploring their own misconceptions in experiencing and managing symptoms may guide them in developing beneficial self-care strategies.

On the other hand, the significant mediating role of CommD on the relationship between CommA and quality of life provides insights into the critical role of patient-provider communication. HCPs should be cognizant of stereotyped beliefs about aging that may affect self-care, management, and health outcomes of older adults. Patients and providers may have different healthcare goals. For instance, in one study, HCPs tended to focus more on strategies to increase survival length, whereas older cancer survivors were eager to receive information not only about the illness but also about their overall health and daily life (Spagnola et al., 2003). Such discordant expectations may lead older adult patients to feel that their concerns are being ignored (Nussbaum et al., 2003; Spagnola et al., 2003). Ultimately, HCPs need to be introspective about their own beliefs and attitudes toward older adult patients and their health problems. Both older adult patients and HCPs must attempt to overcome stigmatized beliefs about aging in experiencing and managing symptoms.

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