

Perspectives of Postmenopausal Breast Cancer Survivors on Adjuvant Endocrine Therapy-Related Symptoms

G.J. van Londen, MD, MS, Heidi S. Donovan, PhD, RN, Ellen B. Beckjord, PhD, MPH, Alexandra L. Cardy, BS, Dana H. Bovbjerg, PhD, Nancy E. Davidson, MD, Jennifer Q. Morse, PhD, Galen E. Switzer, PhD, Irma M. Verdonck-de Leeuw, MSc, PhD, and Mary Amanda Dew, PhD

The majority (about 65%) of nonmetastatic breast cancer survivors are prescribed adjuvant endocrine therapy (AET) with agents such as estrogen receptor agonists/antagonists and/or aromatase inhibitors (Burstein et al., 2010). AET is a long-term therapy currently administered for five years, although an updated American Society of Clinical Oncology guideline, reflecting emerging data, recommended that women completing five years of adjuvant tamoxifen should be offered continuation of AET for a total of 10 years to further improve morbidity and mortality outcomes (Burstein et al., 2014; Davies et al., 2012).

Patients with breast cancer receiving any kind of AET may experience multiple, persistent symptoms, including vasomotor symptoms, sexual dysfunction, insomnia, fatigue, anxiety, depression, and arthralgias (Amir, Seruga, Niraula, Carlsson, & Ocana, 2011; Burstein et al., 2010; Cella et al., 2006; Fontein et al., 2013; Hickey et al., 2008; Rechis et al., 2010; Stearns & Hayes, 2002; van Londen et al., 2013). These symptoms negatively affect survivors' functional status and quality of life (Cella et al., 2006; Conde et al., 2005; Ganz, Rowland, Desmond, Meyerowitz, & Wyatt, 1998; Gupta et al., 2006; Land et al., 2006; Perry, Kowalski, & Chang, 2007; Stein, Jacobsen, Hann, Greenberg, & Lyman, 2000; Wilson & Cleary, 1995). Negative symptom experiences reported in the clinical literature appear to contribute to lack of adherence to AET (Bender et al., 2014; Cluze et al., 2011; Fink, Gurwitz, Rakowski, Guadagnoli, & Silliman, 2004; Henry et al., 2012; Hershman et al., 2010; Murphy, Bartholomew, Carpentier, Bluethmann, & Vernon, 2012), which, in turn, has been linked to higher mortality (Hershman et al., 2011). To date, however, little patient-oriented research has focused on experiences of AET-related symptoms, how

Purpose/Objectives: To conduct an investigation of women's experiences related to adjuvant endocrine therapy (AET) and managing AET-related symptoms.

Research Approach: Qualitative, focus group design.

Setting: Main campus of the University of Pittsburgh in Pennsylvania.

Participants: 14 breast cancer survivors, aged 50 years or older, with AET-related symptoms.

Methodologic Approach: Semistructured discussion guides were used to elicit recollections of conversations with healthcare providers about starting AET, symptom experiences, symptom management, and suggestions for improving management. Audiotaped discussions were transcribed and analyzed to identify themes.

Findings: Women reported that, initially, AET was not viewed as a choice, but rather as the necessary next step to save their lives. After starting AET, women experienced difficulties making sense of, communicating about, and managing unanticipated AET-related symptoms. Women who experienced persistently bothersome symptoms began weighing the pros and cons of AET to decide whether to continue treatment.

Conclusions: Focus group findings suggest multiple opportunities to better prepare patients for AET and to improve assessment and management of AET-related symptoms.

Interpretation: By exploring AET-related symptom experiences, nurses may be able to promote AET adherence in breast cancer survivors.

Key Words: breast cancer; quality of life; adjuvant endocrine therapy

ONF, 41(6), 660–668. doi: 10.1188/14.ONF.660-668

patients with breast cancer try to manage symptoms, or how these experiences influence patients' decision making regarding AET continuation. This focus on symptom experience may be particularly relevant for those aged 50 years and older who are already at risk

for menopausal symptoms (Blumel et al., 2000; Chedraui, San Miguel, & Avila, 2009; Schwarz et al., 2007), comorbidities (Baumeister, Balke, & Harter, 2005), and/or effects of normal aging (Motl & McAuley, 2010; van Londen et al., 2013).

The purpose of this focus group study was to explore survivors' recollection of the conversation with the medical oncologist about starting AET, experiences with AET-related symptoms, AET-related symptom management, challenges to taking AET, and views about how AET-related symptoms might be better managed.

Methods

A focus group design was used to foster dynamic discussion and gain formative insight into patient experiences (Patton, 2002). The size of each group was intentionally small (3–4) to maximize individual input (Hagan & Donovan, 2013). Female breast cancer survivors who met the following eligibility criteria were invited to participate in the study: (a) aged 50 years or older, (b) self-reported to have been undergoing AET for longer than one year (to limit the confounding influence of chemotherapy-related symptoms), and (c) experiencing at least one moderately distressing symptom, as assessed by the Breast Cancer Prevention Trial (BCPT) symptom scale, a validated measure of physical symptoms in breast cancer survivors (Stanton, Bernaards, & Ganz, 2005). Patients rated symptoms on a Likert-type scale of not at all (0), slightly (1), moderately (2), quite a bit (3), and extremely (4). Women taking endocrine therapy as part of treatment for metastatic disease were excluded as this study focused on the perspectives of women taking AET to prevent recurrence. Because cancer stage might affect the AET experience (Aiello Bowles et al., 2012), women of similar severity of illness (based on self-reported lymph node status) were included within groups. Additional focus groups were conducted until no new themes emerged. A total of four focus groups were conducted (two lymph node–negative and two lymph node–positive). High levels of participation by women in each group and similar findings across the lymph node–positive and –negative groups increased the authors' confidence to end the study after the fourth focus group (Kuzel, 1992; Morse, 2000).

Procedures

The University of Pittsburgh's Institutional Review Board approved the study. Women were recruited from outpatient clinics of the University of Pittsburgh Medical Center. All focus groups were held at the nearby university campus from May to September 2011. Recruitment of study participants occurred through advertisements in medical oncology practices, research

registries, and word of mouth. Potentially eligible participants were screened by phone and, if eligible, mailed a consent form, directions, a short demographic survey, and the BCPT symptom scale (Stanton et al., 2005). Prior to conducting the focus group, the investigator introduced the purpose and process of the study, reviewed and signed consent forms, and collected completed, self-reported surveys. All participants received parking reimbursement, a \$20 gift card, and refreshments.

Each focus group was facilitated by a member of the study team and also attended by a third investigator. The 90-minute sessions were audio recorded and deleted following transcription and review.

Measures

A semistructured interview guide was developed for the study that included a series of discussion prompts that addressed survivors' recollection of the conversation with their medical oncologist about starting AET, experiences related to successfully taking AET as prescribed, experiences with AET-related symptoms, AET-related symptom management, and views about how AET-related symptoms might be better managed. See Table 1 for examples of discussion prompts.

Analysis

Analysis of each focus group's transcripts was carried out in two phases (Patton, 2002; Ryan & Bernard, 2003). Initial coding was done by pairs of team members using an a priori coding scheme based on the questions in the semistructured interview guide. Each pair included the first author of this article and one of three team members with qualitative data methods expertise (Strauss & Corbin, 1990). Two of the authors then individually reviewed the coded text and themes (the essence of the phenomena or aspects of the text that provide meaning to the phenomena) and subthemes (more concrete units of information) were extracted, discussed, and agreed on using an iterative process (Morse, 2008). No differences in themes or subthemes were identified between the lymph node–positive and –negative focus groups; therefore, results are presented together.

Results

A total of 14 female breast cancer survivors participated in the focus groups. Demographic and clinical information for study participants is included in Table 2. Five themes emerged: (a) initially, taking AET was not viewed as a choice to be made but rather a next necessary step in curative treatment; (b) after starting AET, women experienced unanticipated symptoms; (c) during AET, women faced difficulties in making sense of and managing their symptoms; (d) frustration

in managing symptoms; and (e) over time, women became aware that taking AET is a choice and began weighing the pros and cons of continued treatment.

Theme 1: Adjuvant Endocrine Therapy as a Necessary Treatment

At the time of being prescribed AET, breast cancer survivors often did not feel they had a real choice; they viewed AET as the next necessary step in treatment to avoid breast cancer recurrence and death. They did not inquire much about AET-related risks or, if they did, they felt like the risks were not central to the discussion.

It shocks me because I felt the fear of God in me. I had to take this. I didn't ask the questions, which is so unusual for me.

I don't think it was really explained to me, all the things that might happen. I don't remember. I'll be honest with you; I really don't remember. Maybe he did tell me everything, but I also knew I wanted to live. I didn't want to take a chance on not doing what the doctor told me not to do.

Theme 2: Experiencing Unanticipated Symptoms

Survivors talked about being surprised by the wide range of symptoms, including vasomotor symptoms, sexual dysfunction, insomnia, fatigue, cognitive dysfunction, pain, functional limitations, mood disturbance, and anxiety. More importantly, women talked about the negative effect of symptoms on their lives.

I am more forgetful. I work harder at work to do the same job that I used to just do. It's harder for

me to stay focused, to concentrate, to think clearly, to remember everything.

Because of the side effects and my hands. I'm an artist. I'm a floral designer. I couldn't . . . I still can't pick up a straight pin. I can't pick up anything small like a needle.

I didn't expect the night sweats to be so bad. I didn't expect them to interfere with my sleep.

I wouldn't have ever thought that it would interfere so much that I don't feel like myself. I don't have the energy. I can't sleep. I'm having trouble at work.

Theme 3: Difficulty Making Sense of Symptoms

Women talked about a wide range of issues that affected their ability to understand or make sense of their symptoms. Three subthemes were identified.

Uncertainty in determining the cause of their symptoms: Women talked about the frustration and worry that came from not being able to determine whether symptoms were caused by AET, aging, comorbidities, or cancer recurrence.

I think it's so hard to know what is causing what and, like I said, if you didn't have that, other things factor in, age and all that, but I do think the medications, like you say [referring to comment by another participant], exacerbated.

And if you do get aches in your joints, I mean, you get scared, you know? What is going on with my body?

Lack of understanding by friends and family: Survivors mentioned their frustration when trying to

Table 1. Focus Group Discussion Topics and Examples of Discussion Prompts

Topic	Discussion Prompt
Understanding of rationale for hormonal therapy (recollection of the conversation with their medical oncologist about starting AET)	<ul style="list-style-type: none"> We'd like to start with asking women about their perspectives on why they are taking hormonal therapy. How well do you feel like you understand the benefits and risks of treatment?
Experiences related to consistently taking AET as prescribed	<ul style="list-style-type: none"> What has made it challenging to successfully and consistently take your adjuvant hormonal treatment? Have you ever considered adjusting the therapy yourself or stopping therapy?
Experiences with AET-related symptoms	<ul style="list-style-type: none"> What sorts of side effects or symptoms have you experienced related to your adjuvant hormonal treatment?
AET-related symptom management	<ul style="list-style-type: none"> What sorts of things have you tried to control your symptoms related to your treatment? How well have they worked? What challenges did you face in managing your symptoms?
Views about how AET-related symptoms might be better managed	<ul style="list-style-type: none"> What is the one thing that could be done to help women successfully and consistently take their hormonal treatment? We are looking for answers that can really be acted on, things that could improve the care women receive or other ways that you think women could be best supported.
AET—adjuvant endocrine therapy	

talk with others about symptoms. Friends and family members who had not experienced cancer were not always able to relate or understand.

You really can only go so far with even your husband. They only want to hear what's going on for a couple of minutes.

Well your friends and relatives don't want to hear about [the symptoms].

Concern that talking about symptoms was seen as a sign of emotional or psychological problems by providers: Women discussed extensively about difficulty in talking with their providers about symptoms. Providers' responses made them feel like they were either overreacting or that the symptoms were a result of psychological or emotional problems.

So then I think, well, am I being a hypochondriac? You know, you go home, and it's like, well, should I call another doctor? He seemed like everything's fine. If it was really serious, he would say so.

I would rather have somebody tell me that they don't know why I had a reaction to this or that, rather than just make me feel like I'm a child or it's just your hormones or it's just your mental incapacity.

I cried, I lost it, and then right away, he wants me to go see the psychiatrist! I don't need a psychiatrist or psychologist.

Theme 4: Frustration in Managing Symptoms

Survivors often expressed a great deal of frustration when talking about their attempts to manage symptoms. The following subthemes were identified.

Dissatisfaction with symptom management information from healthcare providers: Women felt like no one provider had the time for, expertise in, and/or interest in helping them to manage symptoms.

[The gynecologist] doesn't do anything but her thing. I don't think she would answer my questions. Or, even if she did it, you know, would be a brush off kind of thing. She doesn't spend that much time with her patients. I don't think they know about the drugs.

[The providers] just go by what they read in a book. . . . I learn more from people who have been through it.

Responsible for own symptom management: Several women reported that they felt like they needed to identify symptom management approaches on their own. They reported spending a lot of time reading about different strategies and interacting with other survivors to get advice.

When you first started to develop the side effects, [the doctor] would tell you things that you would try to do to just sort of get over, or get through, or alleviate some of them. When they didn't work, then you sort of figured it out on your own.

I spend hours and hours researching.

To have these symptoms and at some point you feel like there's no one to talk to outside of other people who are going through it or have been through it.

Few effective and tolerable symptom management strategies: Women reported that they came to realize that few effective symptom management strategies

Table 2. Sample Characteristics (N = 14)

Characteristic	\bar{X}	SD
Age (years)	58.8	6.7
Time since breast cancer diagnosis (months)	35	20
Time (months) since AET initiation	28.3	17.9
Percentage of AET-related symptoms rated 2 or higher	44.6	17.2
Most bothersome symptoms as rated on the BCPT symptom scale		
• General aches	2.9	0.7
• Joint pains	2.9	1
• Muscle stiffness	2.7	1.1
• Lack of interest in sex	2.5	1.6
• Hot flashes	2.3	0.9

Characteristic	n
Race	
Caucasian	14
Marital status	
Married	11
Occupational status	
Employed	4
Not working (retired, disabled, not able to find a job)	10
Self-reported lymph node status	
Negative	8
Positive	6
Cancer treatment^a	
Mastectomy	6
Lumpectomy	8
Radiation therapy	13
Chemotherapy	9
HER2/ <i>neu</i> receptor antibody	2
AET type	
Aromatase inhibitor	12
Tamoxifen	1
Unknown	1
Adjustment of AET	5
Reasons for AET adjustment	
Menopausal transition (eligible for tamoxifen to aromatase inhibitor conversion)	2
Intolerable adverse effects	2
No reason given	1

^a More than one treatment option could be chosen per participant. AET—adjuvant endocrine therapy; BCPT—Breast Cancer Prevention Trial

were available and these often also have their own side effects.

I feel like there isn't any help really available. . . .

You can take the suppository [estrogen containing for vaginal atrophy]. First thing the pharmacist says, "Well, I thought you weren't supposed to be taking estrogen," and I said, "Well, they told me I can take these."

I'm tired of taking [pills]. When someone says, "Take a pill for this [symptom]," I don't want to start another pill. I think about all these other side effects. The lesser of two evils.

Theme 5: Weighing Pros and Cons of Ongoing Treatment

With the development of persistent and difficult-to-manage symptoms, survivors begin to rethink their willingness to take AET and to weigh the pros and cons of ongoing treatment. Some women told the authors that they decided to continue AET and accept its related symptoms, whereas others reported that they were coming to the decision that the reduced risk of recurrence was not worth the loss of quality of life.

I'm going to take my medication, regardless. I mean I'm just going to take it. I'm convinced that taking it for five years with the other therapies that I've had increases my survival rate up to 10 years, but having talked to other women who have quit, they just really couldn't get past the symptoms and I understand that.

Okay, I have a choice. I either continue this medicine and know the side effects or I stop taking this medicine and know that there's always a chance I'm going to get the cancer back. I think that's what it is. You just know this medicine has side effects and you take it for what it's worth.

Well, that was my big thing about taking [exemestane]. If I have to take it for five years and my quality of life is so bad, do I want to take it? These are probably the last good five years of my life. I'm 60. Do I take it and have all these side effects?

You do get to a point where it just isn't worth it to fight it [staying on AET].

Suggestions for Improving Care

Following the discussion of AET symptom experiences, survivors were asked about ways the healthcare system could be improved to better meet their needs. Survivors said that they wished they had access to a knowledgeable source that would be able to provide more education about AET.

What'll help is taking the load off the oncologist, because their days are so busy. And when you know they're dealing with people that are sick and going through treatment and we need someone to discuss these things now.

There has to be somebody helping us with those things. Why am I going off of [AET] in five years? We need a theory about what [anastrozole] is doing to us. I worked in the medical field. I really don't understand. It stops estrogen, okay, that's all I know. I think that would really be helpful to help people understand why they're taking it.

Things that would help with the side effects rather than waiting until you see the doctor six months later. You probably could have solved it within the first week starting therapy, or not had so much trouble with it, because nobody told me.

Survivors were consistent in terms of *what* they needed; however, consensus about *how* best to get this support was not known. Various delivery options were mentioned, including printed materials, phone, synchronous messaging, email, telemedicine, and face-to-face conversations. In terms of timing, some women said that they would prefer frequent, proactive interactions, whereas others preferred a less intense, more flexible support system that they could access themselves if or when desired.

Email works for me, but it doesn't work for everybody.

I'd rather just pick up the phone instead of like putting it all in an email.

Survivors also indicated the need for more effective, affordable, and nonpharmacologic treatment options for AET-related symptoms.

I just know it's very frustrating though. When you have estrogen-positive tumors, that everything they recommend for these sleepless hot flashes are estrogen-based. It's like, "Okay, well, what's plan B? I can't take that so what else can I do?"

Insurance wouldn't pay for a chiropractor. Insurance doesn't pay for physical therapy either.

Discussion

Results of this qualitative research study suggest that breast cancer survivors on AET encounter substantial challenges related to their experience and management of AET-related symptoms. Initially, taking AET often was perceived as a nondecision, driven by their medical oncologist's recommendation and fear of cancer recurrence. Women did not remember detailed discussions with their healthcare provider about the

potential adverse effects associated with AET. AET is the cornerstone treatment modality for women with hormone receptor–positive breast cancer to reduce their cancer recurrence risk (Burststein et al., 2010). To derive the most survival benefit, finding ways to support women to stay on therapy whenever possible is essential. Additional research is needed to explore whether experiences with AET reflected in the current study were caused by insufficient education by providers and/or by survivor’s ability to participate in and remember this conversation. Findings would help prioritize the development of individualized educational interventions to improve AET adherence (Feldman-Stewart et al., 2013). Oncology nurses play a critical role in the development and implementation of these types of educational interventions.

The type and nature of the AET-related symptoms discussed in the focus groups were consistent with previous clinical reports in the literature (Burststein et al., 2010; Hickey et al., 2008; Rechis et al., 2010; Stearns & Hayes, 2002; van Londen et al., 2013). However, the magnitude of bothersome symptoms was not always anticipated by patients, nor was the extent of interference with sleep, activities of daily living, and functioning. The survivors, recruited at age 50 years and older, described great frustration with their difficulty in determining the etiology of symptoms (i.e., AET, aging, and/or comorbidities). The women described receiving little understanding and support about symptoms from family and friends. Survivors expressed concerns that providers lacked time and expertise and gave them the feeling that experiencing AET-related symptoms was a sign of emotional weakness. This could contribute to a downward spiral of discouragement, worsening of symptoms, and AET discontinuation (Aiello Bowles et al., 2012; Cuijpers, Beekman, & Reynolds, 2012; Riegel et al., 2009) that can occur when experiencing chronic symptoms without adequate relief. These findings are consistent with Christensen’s (2000) Patient-by-Context Interaction Framework of Adherence. In this framework, adherence is best understood as an interaction between a patient’s individual factors (e.g., personal traits, expectancies, coping processes) and illness/treatment context factors (e.g., treatment controllability, illness severity). The framework has received attention as a useful way to examine the influence of symptoms on adherence to AET (Bender et al., 2014). Future research could further explore patient factors that are associated with increased risk for AET discontinuation as well as adaptive coping processes among women who persist on AET. These findings could assist researchers and clinicians in developing targeted interventions to promote adherence to AET. Educational, navigational, and behavioral interventions that target empowerment and improvement of self-care (Beekman, Smit, Stek, Reyn-

Knowledge Translation

Adjuvant endocrine therapy (AET)–related symptoms are persistent and not always anticipated, contributing to a gradual reevaluation of the benefits and risks of AET.

Oncology nurses must ensure that patients have adequate preparatory information regarding the potential risks and side effects as well as important benefits of AET.

At AET initiation, oncology nurses should be proactive in monitoring and managing AET side effects.

olds, & Cuijpers, 2010; Loh, Packer, Chinna, & Quek, 2013; Wrosch & Sabiston, 2012) and are adaptable to survivors’ changing needs (Krebber et al., 2012) might be particularly beneficial.

At some point, with persistent experiences of bothersome AET-related symptoms, survivors reported gradually beginning to recognize that they had a decision to make regarding whether they wanted to continue AET and accept the related symptoms, or discontinue AET prematurely and accept the potential for increased risk of recurrence. This has very important implications. These findings reflect serious unmet educational needs at the time of treatment initiation, namely that they may not fully understand the major risks of deciding to stop a treatment that is known to optimize survival in this patient population. Of note, all women in the current sample were on AET at the time of their participation in the focus group. However, this reflects the inclusion criteria requiring that women be on AET therapy for one year to be eligible to participate. This creates a sample of women who had decided to persist with AET. Literature has shown that about 17%–32% of initial AET users discontinue its intake within the first year (Henry et al., 2012; Partridge, Wang, Winer, & Avorn, 2003), although some might tolerate alternative AET options (Henry et al., 2012). Future research should explore whether earlier, proactive, intermittent provision of education about the benefits and anticipated risks of AET as well as assessment and management of AET-related symptoms can improve survivors’ ability to persist with AET.

Limitations

The study sample may affect the generalizability of the findings. Most of the survivors in the current study were Caucasian, married, and not employed and, therefore, may have had supportive resources not available to all survivors. This distribution does not represent all breast cancer survivors, as other ethnicities are underrepresented and most breast cancer survivors in their 50s are employed (Rechis et al., 2010). The study group also focused on women taking AET for at least a year.

For these women, symptoms have not (yet, at least) led to early termination of therapy. However, the challenges, as described in this article, might be even more pronounced in those with less access to support and health care, as well as those who may have dropped out of treatment earlier. In addition, the authors did not find a difference between the self-report lymph node status groups. Although women may not have remembered their lymph node status, perhaps the structure of the focus group interviews did not specifically explore the relationship between lymph node status and perception of AET therapy. The authors also were unable to fully differentiate between symptoms related to AET versus chemotherapy. However, women were only eligible if they had been on AET for at least one year. In general, AET is not initiated until chemotherapy sessions have been completed. Therefore, women in the study were at least one year out from their last chemotherapy session, which should have allowed for recovery from chemotherapy-related symptoms.

Implications for Nursing

Oncology nurses have a responsibility to provide individualized education, not only at the time of AET initiation, but also over time. Key topics that may be particularly useful include information on (a) the fact that once breast cancer has reoccurred, it will likely not be curable anymore; however, the many different lines of therapy available might be able to provide long-term disease control and survival; (b) a woman's individual risk of cancer recurrence; and (c) the expected reduction in risk associated with taking AET as prescribed (Burstein et al., 2010). Taking AET therapy consistently for five years can cut the breast cancer recurrence risk in about half; an additional five years of AET can result in an additional modest reduction. Another important topic for patient education by nurses includes an explanation of how the prescribed anti-estrogen agent works, why their cancer provider selected this particular agent (out of all the available anti-estrogen agents), and the possible adverse affects associated with the prescribed AET (Burstein et al., 2010). For example, estrogen receptor agonists/antagonists, such as tamoxifen, target the estrogen receptor, whereas the more effective aromatase inhibitors decrease the circulating levels of female gonadal hormones by inhibiting their peripheral production. Administration of aromatase inhibitors to premenopausal women is contraindicated as the ovaries might (over)compensate for the aromatase inhibitor-mediated decreased levels of female gonadal hormones. Therefore, if a woman should develop vaginal bleeding on an aromatase inhibitor, she should contact her prescribing provider, as it might be indicative of a resumption of ovarian func-

tion. An updated American Society of Clinical Oncology guideline recommended that "addressing patient beliefs about the benefits and risks of medications is warranted in patient-provider interactions about the use of adjuvant endocrine therapy. Helping patients understand the rationale for therapy, and the likely adverse effects, is likely to enhance treatment compliance and persistence" (Burstein et al., 2014).

This study also highlights the important role that nurses can play in the ongoing assessment and management of AET-related symptoms. An explicit assessment of whether symptoms are affecting a woman's willingness or ability to persist with AET could help nurses to intervene early to prevent cessation of treatment. Specific strategies include the development of proactive telephone follow-up protocols to evaluate the effectiveness of symptom management strategies, modify the approach if necessary, and reinforce the benefit of persisting with treatment. Referral to supportive care services should also be considered for women with persistent symptoms.

Conclusions

The current study highlights the potential impact of AET-related symptom experience on survivors' willingness to continue on AET. Although women in this study were highly adherent despite unanticipated symptoms, their insights provide opportunities for patient- and provider-targeted interventions to improve AET-related symptom management, which could ultimately improve AET adherence and survival. These findings may be instrumental in guiding the involvement of oncology nurses in survivorship care to help women gain a more comprehensive understanding of the benefits and risks of AET (dis)continuation and feel supported in making informed decisions to maximize quality of life and survival.

The authors gratefully acknowledge Farah Khalifa for her assistance with the recruitment, preparation, and transcription of the focus groups, and Judy Chang, MD, MPH, for critical review of the manuscript.

G.J. van Londen, MD, MS, is an assistant professor in the Division of Hematology-Oncology and Geriatric Medicine in the Department of Medicine at the University of Pittsburgh and director of the Cancer LiveWell Survivorship Program at the University of Pittsburgh Cancer Institute and University of Pittsburgh Medical Center (UPMC) Cancer Center; Heidi S. Donovan, PhD, RN, is an associate professor in the Department of Acute and Tertiary Care and director of the Office of Community Partnerships, both in the School of Nursing at the University of Pittsburgh; Ellen B. Beckjord, PhD, MPH, is an assistant professor in the Department of Psychiatry at the University of Pittsburgh; Alexandra L. Cardy, BS, is a research assistant in the Biobehavioral Oncology Program at the University of Pittsburgh Cancer Institute; and Dana H. Bovbjerg, PhD, is a professor in the Departments of Psychiatry, Psychology, Clinical and Translational Science Institute, Behavioral and

Community Health Services at the University of Pittsburgh and the director of the Biobehavioral Oncology Program at the University of Pittsburgh Cancer Institute; Nancy E. Davidson, MD, is a director at the University of Pittsburgh Cancer Institute and UPMC CancerCenter and the Hillman Professor of Oncology and distinguished professor of medicine and pharmacology and chemical biology at the University of Pittsburgh; Jennifer Q. Morse, PhD, is an assistant professor in counseling psychology in the School of Health Sciences at Chatham University in Pittsburgh; Galen E. Switzer, PhD, is a professor in the Departments of Medicine, Psychiatry, and Clinical and Translational Science at the University of Pittsburgh and the Veterans Administration Pittsburgh Healthcare System; Irma M. Verdonck-de Leeuw, MSc, PhD, is a professor in the Department of Clinical Psychology at Vrije Universiteit (VU) Medical Center in Amsterdam, Netherlands; and Mary Amanda Dew, PhD, is a professor in the Departments of Psychiatry, Psychology, Epidemiology, and Biostatistics at the University

of Pittsburgh, a professor at the Clinical and Translational Science Institute and the Biobehavioral Medicine in Oncology Program at the University of Pittsburgh Cancer Institute, director of the Clinical Epidemiology Program, a co-director of the National Institute of Mental Health Center for Late Life Depression Prevention and Intervention, and a director of the Quality of Life Research, Artificial Heart Program Adult Cardiothoracic Transplantation at UPMC. This study was supported, in part, by grants from the National Center for Advancing Translational Sciences of the National Institutes of Health (No. KL2TR000146), from the Pittsburgh Older Americans Independence Center (No. AG024827), and from the University of Pittsburgh Cancer Center support grant from the National Institute of Health (No. CA047904). This study also was supported, in part, by the Hartford Foundation and the Magee-Womens Research Institute and Foundation. Van Londen can be reached at vanlondenj@upmc.edu, with copy to editor at ONFEditor@ons.org. (Submitted September 2013. Accepted for publication July 13, 2014.)

References

- Aiello Bowles, E.J., Boudreau, D.M., Chubak, J., Yu, O., Fujii, M., Chestnut, J., & Buist, D.S. (2012). Patient-reported discontinuation of endocrine therapy and related adverse effects among women with early-stage breast cancer. *Journal of Oncology Practice, 8*, e149–e157. doi:10.1200/JOP.2012.000543
- Amir, E., Seruga, B., Niraula, S., Carlsson, L., & Ocana, A. (2011). Toxicity of adjuvant endocrine therapy in postmenopausal breast cancer patients: A systematic review and meta-analysis. *Journal of the National Cancer Institute, 103*, 1299–1309. doi:10.1093/jnci/djr242
- Baumeister, H., Balke, K., & Harter, M. (2005). Psychiatric and somatic comorbidities are negatively associated with quality of life in physically ill patients. *Journal of Clinical Epidemiology, 58*, 1090–1100. doi:10.1016/j.jclinepi.2005.03.011
- Beekman, A.T., Smit, F., Stek, M.L., Reynolds, C.F., III, & Cuijpers, P.C. (2010). Preventing depression in high-risk groups. *Current Opinion in Psychiatry, 23*, 8–11. doi:10.1097/YCO.0b013e3283333e17f
- Bender, C.M., Gentry, A.L., Brufsky, A.M., Casillo, F.E., Cohen, S.M., Dailey, M.M., . . . Sereika, S.M. (2014). Influence of patient and treatment factors on adherence to adjuvant endocrine therapy in breast cancer. *Oncology Nursing Forum, 41*, 274–285. doi:10.1188/ONF.14.274-285
- Blumel, J.E., Castelo-Branco, C., Binfa, L., Gramegna, G., Tacla, X., Aracena, B., . . . Sanjuan, A. (2000). Quality of life after the menopause: A population study. *Maturitas, 34*, 17–23.
- Burstein, H.J., Prestrud, A.A., Seidenfeld, J., Anderson, H., Buchholz, T.A., Davidson, N.E., . . . Griggs, J.J. (2010). American Society of Clinical Oncology clinical practice guideline: Update on adjuvant endocrine therapy for women with hormone receptor-positive breast cancer. *Journal of Clinical Oncology, 28*, 3784–3796.
- Burstein, H.J., Temin, S., Anderson, H., Buchholz, T.A., Davidson, N.E., Gelmon, K.E., . . . Griggs, J.J. (2014). Adjuvant endocrine therapy for women with hormone receptor-positive breast cancer: American Society of Clinical Oncology clinical practice guideline focused update. *Journal of Clinical Oncology*. Advance online publication. doi:10.1200/JCO.2013.54.2258
- Cella, D., Fallowfield, L., Barker, P., Cuzick, J., Locker, G., & Howell, A. (2006). Quality of life of postmenopausal women in the ATAC ("Arimidex," tamoxifen, alone or in combination) trial after completion of 5 years' adjuvant treatment for early breast cancer. *Breast Cancer Research and Treatment, 100*, 273–284. doi:10.1007/s10549-006-9260-6
- Chedraui, P., San Miguel, G., & Avila, C. (2009). Quality of life impairment during the female menopausal transition is related to personal and partner factors. *Gynecological Endocrinology, 25*, 130–135. doi:10.1080/09513590802617770
- Christensen, A.J. (2000). Patient-by-treatment context interaction in chronic disease: A conceptual framework for the study of patient adherence. *Psychosomatic Medicine, 62*, 435–443.
- Cluze, C., Rey, D., Huiart, L., Bendiane, M.K., Bouhnik, A.D., Berenger, C., . . . Giorgi, R. (2011). Adjuvant endocrine therapy with tamoxifen in young women with breast cancer: Determinants of interruptions vary over time. *Annals of Oncology, 23*, 882–890. doi:10.1093/annonc/mdr330
- Conde, D.M., Pinto-Neto, A.M., Cabello, C., Sa, D.S., Costa-Paiva, L., & Martinez, E.Z. (2005). Menopause symptoms and quality of life in women aged 45 to 65 years with and without breast cancer. *Menopause, 12*, 436–443. doi:10.1097/01.GME.0000151655.10243.48
- Cuijpers, P., Beekman, A.T., & Reynolds, C.F., III. (2012). Preventing depression: A global priority. *JAMA, 307*, 1033–1034. doi:10.1001/jama.2012.271
- Davies, C., Pan, H., Godwin, J., Gray, R., Arriagada, R., Raina, V., . . . Peto, R. (2012). Long-term effects of continuing adjuvant tamoxifen to 10 years versus stopping at 5 years after diagnosis of oestrogen receptor-positive breast cancer: ATLAS, a randomised trial. *Lancet, 380*, 805–816. doi:10.1016/S0140-6736(12)61963-1
- Feldman-Stewart, D., Madarnas, Y., Mates, M., Tong, C., Grunfeld, E., Verma, S., . . . Brundage, M. (2013). Information for decision making by post-menopausal women with hormone receptor positive early-stage breast cancer considering adjuvant endocrine therapy. *Breast, 22*, 919–925. doi:10.1016/j.breast.2013.04.020
- Fink, A.K., Gurwitz, J., Rakowski, W., Guadagnoli, E., & Silliman, R.A. (2004). Patient beliefs and tamoxifen discontinuance in older women with estrogen receptor-positive breast cancer. *Journal of Clinical Oncology, 22*, 3309–3315. doi:10.1200/JCO.2004.11.06422/16/3309
- Fontein, D.B., Seynaeve, C., Hadji, P., Hille, E.T., van de Water, W., Putter, H., . . . van de Velde, C.J. (2013). Specific adverse events predict survival benefit in patients treated with tamoxifen or aromatase inhibitors: An international tamoxifen exemestane adjuvant multinational trial analysis. *Journal of Clinical Oncology, 31*, 2257–2264. doi:10.1200/JCO.2012.45.3068
- Ganz, P.A., Rowland, J.H., Desmond, K., Meyerowitz, B.E., & Wyatt, G.E. (1998). Life after breast cancer: Understanding women's health-related quality of life and sexual functioning. *Journal of Clinical Oncology, 16*, 501–514.
- Gupta, P., Sturdee, D.W., Palin, S.L., Majumder, K., Fear, R., Marshall, T., & Paterson, I. (2006). Menopausal symptoms in women treated for breast cancer: The prevalence and severity of symptoms and their perceived effects on quality of life. *Climacteric, 9*, 49–58. doi:10.1080/13697130500487224
- Hagan, T.L., & Donovan, H.S. (2013). Ovarian cancer survivors' experiences of self-advocacy: A focus group study. *Oncology Nursing Forum, 40*, 140–147. doi:10.1188/13.ONFA12-A19
- Henry, N.L., Azzouz, F., Desta, Z., Li, L., Nguyen, A.T., Lemler, S., . . . Storniolo, A.M. (2012). Predictors of aromatase inhibitor discontinuation as a result of treatment-emergent symptoms in

- early-stage breast cancer. *Journal of Clinical Oncology*, 30, 936–942. doi:10.1200/JCO.2011.38.0261
- Hershman, D.L., Kushi, L.H., Shao, T., Buono, D., Kershenbaum, A., Tsai, W.Y., . . . Neugut, A.I. (2010). Early discontinuation and nonadherence to adjuvant hormonal therapy in a cohort of 8,769 early-stage breast cancer patients. *Journal of Clinical Oncology*, 28, 4120–4128. doi:10.1200/JCO.2009.25.9655
- Hershman, D.L., Shao, T., Kushi, L.H., Buono, D., Tsai, W.Y., Fehrenbacher, L., . . . Neugut, A.I. (2011). Early discontinuation and non-adherence to adjuvant hormonal therapy are associated with increased mortality in women with breast cancer. *Breast Cancer Research and Treatment*, 126, 529–537. doi:10.1007/s10549-010-1132-4
- Hickey, M., Saunders, C., Partridge, A., Santoro, N., Joffe, H., & Stearns, V. (2008). Practical clinical guidelines for assessing and managing menopausal symptoms after breast cancer. *Annals of Oncology*, 19, 1669–1680. doi:10.1093/annonc/mdn353
- Krebber, A.M., Leemans, C.R., de Bree, R., van Straten, A., Smit, F., Smit, E.F., . . . Verdonck-de Leeuw, I.M. (2012). Stepped care targeting psychological distress in head and neck and lung cancer patients: A randomized clinical trial. *BMC Cancer*, 12, 173. doi:10.1186/1471-2407-12-173
- Kuzel, A.J. (1992). Sampling in qualitative inquiry. In B.F. Crabtree & W.F. Miller (Eds.), *Doing qualitative research. Research methods for primary care* (vol. 3, pp. 31–44). Thousand Oaks, CA: Sage.
- Land, S.R., Wickerham, D.L., Costantino, J.P., Ritter, M.W., Vogel, V.G., Lee, M., . . . Ganz, P.A. (2006). Patient-reported symptoms and quality of life during treatment with tamoxifen or raloxifene for breast cancer prevention: The NSABP Study of Tamoxifen and Raloxifene (STAR) P-2 trial. *JAMA*, 295, 2742–2751. doi:10.1001/jama.295.23.joc60075
- Loh, S.Y., Packer, T., Chinna, K., & Quek, K.F. (2013). Effectiveness of a patient self-management programme for breast cancer as a chronic illness: A non-randomised controlled clinical trial. *Journal of Cancer Survivorship*, 7, 331–342. doi:10.1007/s11764-013-0274-x
- Morse, J.M. (2000). Determining sample size. *Qualitative Health Research*, 10, 3–5. doi:10.1177/104973200129118183
- Morse, J.M. (2008). Confusing categories and themes. *Qualitative Health Research*, 18, 727–728. doi:10.1177/1049732308314930
- Motl, R.W., & McAuley, E. (2010). Physical activity, disability, and quality of life in older adults. *Physical Medicine and Rehabilitation Clinics of North America*, 21, 299–308. doi:10.1016/j.pmr.2009.12.006
- Murphy, C.C., Bartholomew, L.K., Carpentier, M.Y., Bluethmann, S.M., & Vernon, S.W. (2012). Adherence to adjuvant hormonal therapy among breast cancer survivors in clinical practice: A systematic review. *Breast Cancer Research and Treatment*, 134, 459–478. doi:10.1007/s10549-012-2114-5
- Partridge, A.H., Wang, P.S., Winer, E.P., & Avorn, J. (2003). Nonadherence to adjuvant tamoxifen therapy in women with primary breast cancer. *Journal of Clinical Oncology*, 21, 602–606.
- Patton, M.Q. (2002). *Qualitative research and evaluation methods*. Thousand Oaks, CA: Sage.
- Perry, S., Kowalski, T.L., & Chang, C.H. (2007). Quality of life assessment in women with breast cancer: Benefits, acceptability and utilization. *Health and Quality of Life Outcomes*, 5, 24.
- Rechis, R., Boerner, L., Nutt, S., Shaw, K., Berno, D., & Duchover, Y. (2010). How cancer has affected post-treatment survivors: A LiveStrong report. Retrieved from <http://www.livestrong.org/what-we-do/our-approach/reports-findings/how-cancer-has-affected-post-treatment-survivors/>
- Riegel, B., Moser, D.K., Anker, S.D., Appel, L.J., Dunbar, S.B., Grady, K.L., . . . Whellan, D.J. (2009). State of the science: Promoting self-care in persons with heart failure: A scientific statement from the American Heart Association. *Circulation*, 120, 1141–1163.
- Ryan, G.W., & Bernard, H.R. (2003). Techniques to identify themes. *Field Methods*, 15, 85–109. doi:10.1177/1525822x02239569
- Schwarz, S., Volzke, H., Alte, D., Schwahn, C., Grabe, H.J., Hoffmann, W., . . . Doren, M. (2007). Menopause and determinants of quality of life in women at midlife and beyond: The Study of Health in Pomerania (SHIP). *Menopause*, 14, 123–134. doi:10.1097/01.gme.0000227860.58097.e9
- Stanton, A.L., Bernaards, C.A., & Ganz, P.A. (2005). The BCPT symptom scales: A measure of physical symptoms for women diagnosed with or at risk for breast cancer. *Journal of the National Cancer Institute*, 97, 448–456. doi:10.1093/jnci/dji069
- Stearns, V., & Hayes, D.F. (2002). Approach to menopausal symptoms in women with breast cancer. *Current Treatment Options in Oncology*, 3, 179–190.
- Stein, K.D., Jacobsen, P.B., Hann, D.M., Greenberg, H., & Lyman, G. (2000). Impact of hot flashes on quality of life among postmenopausal women being treated for breast cancer. *Journal of Pain and Symptom Management*, 19, 436–445.
- Strauss, A.C., & Corbin, J.M. (1990). *Basics of qualitative research: Grounded theory procedures and techniques* (2nd ed.). Newbury Park, CA: Sage.
- van Londen, G., Beckjord, E.B., Dew, M.A., Cuijpers, P., Tadic, S., & Brufsky, A. (2013). Breast cancer survivorship symptom management: Current perspective and future development. *Breast Cancer Management*, 2, 71–81.
- Wilson I.B., & Cleary, P.D. (1995) Linking clinical variables with health-related quality of life. A conceptual model of patient outcomes. *JAMA*, 273, 59–65.
- Wrosch, C., & Sabiston, C.M. (2012). Goal adjustment, physical and sedentary activity, and well-being and health among breast cancer survivors. *Psycho-Oncology*, 22, 581–589. doi:10.1002/pon.3037

For Further Exploration

Use This Article in Your Next Journal Club Meeting

Journal club programs can help to increase your ability to evaluate literature and translate findings to clinical practice, education, administration, and research. Use the following questions to start discussion at your next journal club meeting. Then, take time to recap the discussion and make plans to proceed with suggested strategies.

1. How comfortable are you in discussing risk of recurrence with breast cancer survivors? Do you know the difference between absolute risk and relative risk and how these may be interpreted by patients?
2. What are the ethical issues in “persuading” a woman to continue taking medication that is negatively affecting her quality of life?
3. What can nurses do to mitigate the adverse effects of these medications in our patients?

Visit www2.ons.org/Publications/VJC for details on creating and participating in a journal club. Photocopying of this article for discussion purposes is permitted.