

ORIGINAL RESEARCH

Acupuncture for Hot Flashes: Decision Making by Breast Cancer Survivors

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Purpose: Hot flashes (HFs) are a particularly common and distressing symptom among breast cancer survivors (BCSs). Given its low rate of side effects, acupuncture shows promise as a therapeutic approach for HFs, but little is known about BCSs' decision making about the use of acupuncture. This study seeks to identify attitudes and beliefs about using acupuncture for HFs by BCSs.

Methods: Using the Theory of Planned Behavior (TPB) as a conceptual framework, we conducted semistructured interviews among women with stage I–III breast cancer who had finished primary treatment and were currently experiencing HFs. Interviews were taped, transcribed, and coded. We used a modified grounded theory approach to analyze the data.

Results: Twenty-five BCSs (13 whites/12 African American) participated in the study. Respondents stated that their intended use of acupuncture for HFs would be dependent on (1) expected therapeutic effects (eg, pain relief, energy); (2) practical concerns (eg, fear of needles, practitioner experience, time commitment); and (3) source of decision support/validation (eg, family members, physicians, self). Although constructs in the TPB accounted for many decision factors, respondents identified 2 major themes outside of the TPB: (1) viewing acupuncture as a natural alternative to medications, and (2) assessing the degree of HFs as bothersome enough in the context of other medical comorbidities to trigger the need for therapy.

Conclusion: BCSs expressed varied expected therapeutic benefits, practical concerns, and decision support, emphasizing the “natural appeal” and symptom appraisal as key determinants when using acupuncture for HFs. Incorporating these factors in counseling BCSs may promote patient-centered communication, leading to improved hot flash management and quality of life. (J Am Board Fam Med 2012;25: 323–332.)

Keywords: Acupuncture, Alternative Medicine, Behavior, Breast Cancer, Complementary Medicine, Hot Flashes, Survivors

Breast cancer survivors (BCSs), 2.5 million in number, constitute the largest group of cancer survivors

in the United States.¹ Hot flashes (HFs) are a common and disruptive clinical problem affecting nearly two thirds of all BCSs.^{2–4} Many cancer therapies such as oophorectomy, chemotherapy, and endocrine therapies may produce a rapid and dras-

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tic estrogen withdrawal that can lead to onset or worsening of HFs. Compared with women without breast cancer, BCSs experience HFs of greater frequency, severity, and duration.³ Previous studies have shown that HFs also are correlated with insomnia, fatigue, reduced libido, and poor quality of life among BCSs.^{3,5-7} After treatment, as many BCSs return to their primary care physicians (PCPs),⁸ management of HFs is a common issue faced by both parties.¹

Treatment of HFs in BCSs has proven difficult because of the limitations and side effects of conventional therapies. Estrogen replacement, the most effective treatment for HFs,⁹ has been found to cause new cancer events in BCSs¹⁰ and is now generally avoided.⁹ Safer, nonestrogen therapies recently have emerged, including clonidine,¹¹ megestrol acetate,¹²⁻¹⁴ gabapentin,^{15,16} and several selective serotonin reuptake inhibitors/serotonin and norepinephrine reuptake inhibitors.¹⁷⁻²⁰ However, the effectiveness of these treatments has been moderate at best, and many of the therapies can have unpleasant toxicities such as insomnia, weight gain, or sexual side effects.²¹ Furthermore, a recent study found that paroxetine may decrease the efficacy of tamoxifen and increase breast cancer mortality.²² As a result, some women are reluctant to take medications to control their HFs and seek nonpharmacologic interventions.^{23,24}

BCSs are known to use complementary and alternative medicine (CAM) extensively.²⁵⁻²⁷ Preliminary studies suggest that acupuncture may reduce HFs in BCSs, with fewer side effects than conventional pharmacologic therapies,^{28,29} and use of acupuncture has been shown to reduce HFs in BCS by greater than 50%, both during the day and at night.²⁹ Acupuncture is associated with improved sleep quality among postmenopausal women³⁰ and has been shown to continue to reduce HFs for as long as 6 months after treatment.³¹ Despite promising early results, evidence of acupuncture's therapeutic effects remains inconclusive, given the unequivocal benefit compared with sham controls and study design limitations.^{32,33} Like decision making for cancer treatment, BCSs often have a difficult time making decisions to manage HFs when several options exist and evidence is not clear as to the best option. In this setting, an understanding of individual patient attitudes and preferences are particularly important to help inform patient-centered decision making. Thus, we conducted this qualitative

study to identify the specific attitudes, beliefs, and barriers held by BCSs about making decisions to use acupuncture for HFs and general beliefs about acupuncture. We also explored how these beliefs differ for whites and African Americans.

Methods

We conducted open-ended, semistructured interviews with women with stage I through III breast cancer who had finished primary cancer treatments (surgery, chemotherapy, radiation) and were currently experiencing daily HFs. Participants were recruited from an outpatient breast cancer oncology clinic in an urban academic hospital. Purposeful sampling was used to ensure the sample was diverse in race, age, and HF severity. Specifically, we created a table to help guide enrollment so there were approximately equal numbers of subjects enrolled in the categories of white/African American and perceived HF severity (mild/moderate, severe/very severe). We analyzed the transcripts of already enrolled subjects and then aimed to enrich specific demographics (eg, women younger than 50 years) to capture a greater variation in the sample. Regulatory approval was obtained through the University of Pennsylvania's institutional review board as well as the Abramson Cancer Center's Clinical Trials Scientific Review and Monitoring Committee.

The interview guide was developed using the Theory of Planned Behavior (TPB)³⁴ as a conceptual framework. The TPB model contains 3 domains: attitude toward the behavior, subjective norms, and perceived behavioral control that contributes to one's behavioral intention.³⁴ This model has been used in numerous research settings to understand the decisions about specific health behaviors such as mammogram use^{35,36} and in the context of CAM research.^{37,38} The interview questions were pilot tested and revised for clarity. Interviewers were all trained and supervised in semistructured interviewing techniques by the study medical anthropologist (FB). Each interview lasted approximately 1 hour and was recorded and then transcribed by a professional transcription company. Participants also completed self-reported surveys to collect general sociodemographic and health information.

De-identified transcripts were imported into QSR NVivo 8.0 software (QSR International Pty. Ltd., Doncaster, Victoria, Australia) to manage the data. A coding scheme and coding dictionary were

developed by the research team based on a close reading of the transcripts. Team members coded 5 transcripts together to improve the reliability of coding and to standardize code definitions. Research assistants coded the remainder of the transcripts. Coding consistency was determined using a feature built into the software for this purpose. Transcripts and codes were discussed during weekly team meetings. We achieved saturation on all major themes after 25 interviews.

Results

The study participants included 13 white women (52%) and 12 African American women (48%). The median age for participants was 57 years (range, 38 to 79 years). Fifteen study participants (60%) had a college degree or more, whereas 10 participants (40%) reported less than college. Eleven women (44%) reported entering menopause naturally, whereas therapy-induced menopause (defined as menopause being brought on by either surgical or medical processes)

was identified in 13 women (52%). Among the participants, 15 (60%) had used some form of CAM in the past 12 months, and 10 (40%) had not. Furthermore, only 4 participants had used acupuncture in the past for symptoms unrelated to HFs. Each participant's characteristics can be seen in Table 1. We identified 3 themes related to decisions to use acupuncture among BCS that fit into the main constructs of the TPB: (1) construction of the effectiveness of acupuncture (attitude); (2) practical concerns related to using acupuncture (perceived behavioral control); (3) decision support and confirmation (subjective norms). However, 2 themes related directly to patients' final decisions to use acupuncture were beyond the constructs in the TPB: (4) viewing acupuncture as a natural alternative to medicine; and (5) symptom appraisal in the context of other medical comorbidities.

Construction of the Effectiveness of Acupuncture

Most participants had a modest general understanding of acupuncture and none had any spe-

Table 1. Specific Characteristics of Subjects

Subject	Age	Race	Education*	Reason for Menopause	Current General Health Status	Daily Severity of HF	CAM Use	Prior Acupuncture Use
A	58	White	Grad/prof	Natural	Fair	Very severe	Yes	Yes
B	46	White	College	Perimenopausal	Very good	Very severe	Yes	No
C	62	White	College	Natural	Very good	Severe	Yes	Yes
D	53	White	Grad/prof	Chemotherapy	Very good	Moderate	No	No
E	65	White	College	Natural	Good	Severe	Yes	No
F	62	White	College	Natural	Good	Severe	Yes	Yes
G	38	White	College	Surgical	Very good	Severe	Yes	No
H	79	AA	High school	Surgical	Good	Severe	No	No
I	62	White	Grad/prof	Natural	Good	Moderate	Yes	No
J	53	White	Grad/prof	Chemotherapy	Very good	Very severe	Yes	Yes
K	69	AA	College	Natural	Good	Mild	No	No
L	73	AA	High school	Natural	Good	Mild	Yes	No
M	42	White	Grad/prof	Chemotherapy	Very good	Mild	Yes	No
N	49	White	College	Chemotherapy	Very good	Mild	No	No
O	73	AA	High school	Surgical	Fair	Severe	No	No
P	48	AA	Grad/prof	Chemotherapy	Very good	Severe	Yes	No
Q	59	AA	Grad/prof	Surgical	Good	Moderate	No	No
R	51	AA	College	Natural	Very good	Moderate	No	No
S	56	AA	College	Natural	Fair	Very severe	Yes	No
T	45	White	Grad/prof	Chemotherapy	Good	Moderate	Yes	No
U	54	AA	College	Chemotherapy	Excellent	Mild	Yes	No
V	60	AA	High school	Surgical	Fair	Mild	Yes	No
W	57	White	Grad/prof	Natural	Excellent	Moderate	No	No
X	67	AA	College	Natural	Good	Mild	No	No
Y	48	AA	Grad/prof	Surgical	Good	Mild	No	No

AA, African American; CAM, complementary and alternative medicine; Grad/Prof, graduate/professional; HF, hot flashes.

cific prior knowledge of acupuncture's effectiveness for HFs. However, many individuals had varying levels of expected benefits of acupuncture built on their personal experiences or those of their family members/friends, mostly related to using acupuncture to treat pain. Some drew from the exposure to mass media such as television and the Internet. They generalized what they learned about acupuncture for specific conditions (eg, back pain) to a much broader perceived benefit of acupuncture. Several African-American women relied on acupuncture's long history and wide use in China as evidence that the therapy has been tested by time and therefore must have some benefit for them. African-American women were also more likely to state that they had little exposure to acupuncture themselves or via family members than white women. Two white women with higher levels of education specified the need for evidence generated from clinical trials targeted at HFs to aid their decision for using acupuncture for HFs (see Table 2a).

Practical Concerns Related to Using Acupuncture

Some respondents stated that they would never use acupuncture because of their fear of needles. A few respondents wondered how acupuncture may affect their lymphedema (ie, will needling make their lymphedema worse?) or other medical conditions. Two women stated that pills are easy to take and therefore are a more desired choice compared with acupuncture. A number of women also listed finding a credible practitioner, location of the practice proximal to their residence, and the time commitment to the therapy as potential barriers to using acupuncture (see Table 2, B).

Decision Support and Confirmation

The majority of the participants indicated that the decision to choose a treatment modality for HFs is entirely theirs. Participants often cited 2 groups of individuals they turn to when they make decisions about medical care in general: (1) family members (spouse, partner, or adult children); and (2) physicians. Interestingly, although some BCSs, especially white survivors, turn to their oncologists for issues related to symptom management, African Americans see their PCP as their main resource with the information to assist their decision making about treating HFs (see Table 2, C).

Viewing Acupuncture as a Natural Alternative to Medicine

When we asked why individuals may choose acupuncture for managing HFs, most responses were centered not so much on what acupuncture is, but rather what acupuncture is not, specifically, not a medication. This was true for all African American and most white respondents. Many of the women described medications as "toxic," "foreign," and having other side effects that may be worse than the HFs themselves. At the same time, they endorsed using a treatment that is natural even when effectiveness is uncertain. Several African-American women stated that they were already taking many medications for a variety of other conditions and they would not consider adding another pill to manage HFs as a viable option; thus, they prefer a natural alternative. African-American women used particularly emotional descriptors ("I hate pills") when discussing their aversion to another medicine (see Table 3).

Symptom Appraisal in the Context of Other Medical Comorbidities

Another main theme that emerged relates directly to whether an individual perceived her HFs as bothersome enough to initiate treatment of any kind. Women spoke specifically about evaluating whether their HFs were severe or bothersome enough to warrant another intervention in the context of their other medical conditions. Although some individuals cited their HFs as tolerable, several African-American women with severe HFs considered treating other symptoms (eg, back pain) as more important and in need of more urgent treatment by acupuncture than their HFs (see Table 4).

Discussion

HFs are a bothersome symptom affecting hundreds of thousands of BCSs. In this study, we identified attitudes toward and beliefs about using acupuncture for HFs, aspects of perceived behavioral control, and social norms related to the intention of using acupuncture for HFs. As expected from the TPB, we found that patients constructed therapeutic benefit and practical concerns in the setting of limited knowledge about acupuncture. Although they rely on family and physicians for treatment information and decision support; survivors often "own" the final decision. Beyond constructs in the TPB, we found that a desire for natural alternatives

to medication was the main driver for survivors' intentions to use acupuncture. The primary reason survivors would not want acupuncture for HFs was an appraisal that their HFs were not bothersome or urgent enough to be treated when they were experiencing other comorbid conditions.

Several previous qualitative studies of factors affecting general use of CAM (rather than acupuncture specifically) among BCSs^{39–42} have reported similar themes, such as that survivors believe that CAM therapies have minimal side effects^{39,41,42} and can be used safely to complement conventional

Table 2. Constructs from the Theory of Planned Behavior

A	Construction of effectiveness (perceived benefits)	<ul style="list-style-type: none"> • “My friend who had acupuncture for a frozen shoulder is a breast cancer survivor, and so if I was gonna do acupuncture I would talk to her about her experience, which was very positive, you know, for her because physical therapy didn’t improve her range of motion but acupuncture did.” <i>Subject P, 48 years, African American, graduate/professional education</i> • “I remember the movie that I saw where the guy, I can’t remember what his name was, who was dying of cancer, went to a Chinese acupuncturist to try to get him to relax and to do some inner thoughts.” <i>Subject Q, 59 years, African American, high school education</i> • “I know that when I was very depressed one time, when my relationship of many, many years ended and I was really severely depressed I went to a place in New York and I went in an acupuncture program with [a doctor] up there and it helped.” <i>Subject B, 46 years, white, college education</i> • “Just what my husband tells me and that it helps reconfigure the flow sometimes of pain or different things. He has a lot of pain so and it helps with his back pain and shoulder pain. And he’s had five hip replacements so he uses it for that. And he said it’s also relaxing for him. . . I know it helps, acupuncture helps.” <i>Subject E, 65 years, white, college education</i> • “My grandmother had crippling rheumatoid arthritis and in the 1970s, late 70s, she used to drag herself into Chinatown in New York City to have acupuncture. . . And she got tremendous relief from it. And that was my first personal. . . she was the first person I knew who ever used acupuncture. And for everything I hear and read and see it’s very effective for a lot of things.” <i>Subject I, 62 years, white, graduate/professional education</i> • “I don’t know how it would work, but it’s been working for the Chinese, I guess it would work for me.” <i>Subject S, 56 years, African American, college education</i> • “If I guess maybe if there was an ongoing study that was maybe yielding a lot of positive results, you know, and then maybe I would consider it.” <i>Subject G, 38 years, white, college education</i>
B	Practical concerns related to using acupuncture (perceived behavior controls)	<ul style="list-style-type: none"> • “I would be concerned about the person who was doing the sterility, the cleanliness, their experience doing it.” <i>Subject I, 62 years, white, graduate/professional education</i> • “I always wondered whether it was going to hurt. I just couldn’t believe that needles sticking out of your forehead, but I don’t know.” <i>Subject Q, 59 years, African American, graduate/professional education</i> • “I guess I am just thinking back because I do have issues with lymphedema, so slight because I manage it. I get very, very concerned and paranoid when people come on my left side because it is like I am very guarded. That is the area that you stay away from.” <i>Subject U, 54 years, African American, college education</i> • “I’m a pretty lazy person. So if I can just be at home and pop a pill in my mouth rather than have to go somewhere and have acupuncture.” <i>Subject D, 53 years, white, college education</i> • “I think the one issue with acupuncture as far as I understand it is that having to get the treatment, I guess, on a certain schedule, whether it be once a week or twice a week, and having to sort of persist with that.” <i>Subject P, 48 years, African American, graduate/professional education</i>

Continued

Table 2. Continued

C	Decision support and confirmation (social norm)	<ul style="list-style-type: none"> • “I would go to my doctor, but when it came to the decision on me doing the acupuncture, the decision was mine alone.” <i>Subject X, 67 years, African American, college education</i> • “I may ask my husband or my 3 children, but the final decision is mine.” <i>Subject E, 65 years, white, college education</i> • “I would ask my primary care physician. I would ask a person who does acupuncture. And I would ask a family member who’s a doctor.” <i>Subject C, 62 years, white, college education</i> • “I would probably go to my sister and she probably would research something and tell me whether to agree with them or not.” <i>Subject D, 53 years, white, graduate/professional education</i> • “I do rely very heavily on Dr. . . He’s my internist that I’ve had for over 20 years.” <i>Subject E, 65 years, white, college education</i> • “My primary care doctor’s the one I go through with just about any and everything that I have to have done.” <i>Subject O, 73 years, African American, high school education</i>
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therapies.^{39–42} Our study specifically found that one of the major determinants of acupuncture use among BCSs was its appeal as a natural alternative. Studies also suggest that CAM often is used for managing symptoms related to cancer and its treatments and for boosting the immune system.^{39,41,42} Our study focused on HFs, a prevalent and bothersome symptom experienced by BCSs, and revealed symptom appraisal of the severity of HFs to be one of the primary reasons for acupuncture use among BCSs. However, to our knowledge, no qualitative studies have focused specifically on understanding the use of a single CAM modality among BCSs to alleviate HFs. Furthermore, our study included BCSs from both white and African-American groups as well as different educational backgrounds and prior CAM experience. Our approach overcomes some of the sampling limitations of previous research, such as including only CAM users,³⁹ mostly whites with higher socioeconomic levels,⁴² or only Chinese participants.⁴⁰

Given the fairly modest understanding of acupuncture and a lack of specific knowledge of acupuncture for HFs, an individual often relies on her family and consults her physician about the use of acupuncture for HFs. Compared with white women, African Americans tend to turn to their PCPs for information about and decision support for symptom management. This is consistent with a previous study that found that African Americans were more likely to endorse the delivery of survivorship care by PCPs.⁸ Our study underlines the importance of PCPs being knowledgeable about

acupuncture as well as therapeutic options for managing HFs in the context of survivorship so they can be well-equipped to facilitate decision making by their patients.

Although the TPB has been used to explain intentions to use CAM,^{37,38} we were interested to find that it did not account for all the factors that women described as affecting their intentions to use acupuncture. The TPB, like much of traditional health behavior theory, is based on the underlying notion of rational thought in which patients are assumed to be highly motivated to maintain or return to a universally agreed-upon definition of good health.^{43,44} Rational health decisions are based on maximizing benefits and

Table 3. Viewing Acupuncture as a Natural Alternative to Medicine

<p>“I’d rather have acupuncture instead of medication because it something that I don’t have to put in my body.” <i>Subject V, 60 years, African American, high school education</i></p> <p>“I hate taking pills. I have enough of ‘em to take as it is.” <i>Subject K, 69 years, African American, college education</i></p> <p>“Because I think as a cancer person, who has had cancer and has been treated with very invasive means, surgery, chemotherapy, radiation, you don’t want another foreign object in your body.” <i>Subject T, 45 years, white, graduate/professional education</i></p> <p>“I’m not a person who likes to take meds. So, I would think there would be a little bit more natural for you.” <i>Subject S, 56 years, African American, college education</i></p> <p>“. . . Because I’m taking enough medicine now. . . I take 6 pills. . . 7, 8, 9, 10 pills a day. . . you, that’s just too many pills.” <i>Subject O, 73 years, African American, high school education</i></p>
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Table 4. Symptom Appraisal in the Context of other Medical Comorbidities

<p>"If he [the oncologist] told me, "Well [acupuncture] will help with your hot flashes. . ." I mean my hot flashes aren't gonna kill me. You know what I mean. . .I'm not gonna subject myself to acupuncture because it will help with my hot flashes. If he told me that it was a guarantee that I would never again have cancer, then sign me up, you know. I would be the first one out the door."</p> <p><i>Subject G, 38 years, white, college education</i></p> <p>"The only thing that I really have a problem with is I have back problems and that's about the only thing I would wanna, you know, use [acupuncture] for if I was gonna use it for anything."</p> <p><i>Subject K, 69 years, African American, college education</i></p> <p>"I would like there to be a study on migraines and acupuncture. That is my main problem right now."</p> <p><i>Subject N, 49 years, white, college education</i></p> <p>"I would still be going for acupuncture for hot flashes except I don't have the time and they're not so intense that I want to take the time off from work to do it."</p> <p><i>Subject J, 53 years, white, graduate/professional education</i></p> <p>"So if the hot flashes are bad but they don't completely stop my life and they don't completely keep me in bed and all that, I might just wing it and not participate in anything."</p> <p><i>Subject C, 62 years, white, college education</i></p> <p>"I'm at my life end almost, you know what I'm saying? So I really don't need something like [acupuncture] that would help the younger girls, women that are married and have husbands and things and going through all of these things. If that acupuncture help 'em, help 'em. See with me right now, I don't. . . It's not gonna help me. It may help me but it wouldn't be that I have to keep up with my husband or my children. My children are almost as old as I am and my husband's gone so I mean I don't have anybody to really have to worry about."</p> <p><i>Subject H, 79 years, African American, high school education</i></p>
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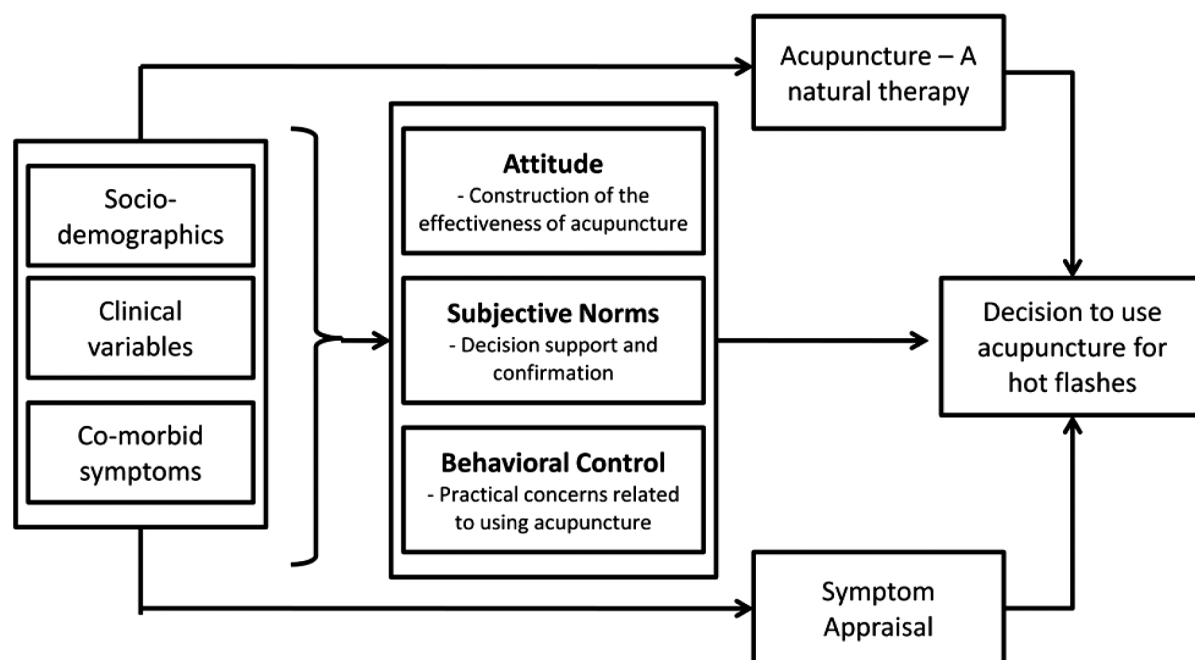
minimizing losses or costs.⁴⁵ For example, the TPB posits that if a woman has a positive attitude about acupuncture (attitude), has no significant barriers to obtaining acupuncture (perceived behavioral control), and has important others in her social network who advocate for using modalities such as acupuncture (subjective norms), she will likely intend to use acupuncture for symptoms such as HFs. Despite this, we found that symptom appraisal and desire for a natural remedy were important determinants as well, even though they did not fit into the TPB model. Many interventions operate under a similar premise: that women will use a utilitarian model for making decisions about treating breast cancer symptoms. It is tempting to use traditional help-seeking models in research and practice because they explain much middle-class health-seeking behavior. However, these approaches treat as ex-

ternal to the model personal, cultural, and social factors that contribute to the meaning and experience of cancer-related symptoms. We have modified the original constructs in the TPB to include symptom appraisal and a subjective appreciation for treatment properties to capture the additional elements that women used when making decisions about using acupuncture for HFs (see Figure 1).

Our study is among the first to explore demographic differences in treatment decisions related to HFs by BCSs. African Americans seem to be much more willing to accept the empirical evidence from historic use as a rationale for their willingness to try acupuncture. Although we observed that all African American and most white patients endorsed acupuncture as a natural alternative, they arrived at this idea from different paths. Compared with whites, African-American women were much more likely to voice concerns about existing polypharmacy as a reason why another pill is not an option for them. At the same time, medical comorbidities such as ongoing pain may also serve as a barrier to using acupuncture for HFs for African Americans. Our findings may reflect the clinical reality that African-American patients are likely to have greater medical comorbidity, and often their decision of using a therapy for a condition is driven by multiple competing medical needs.

Several limitations of our study need to be acknowledged. Our sample was of limited size and drew from an urban tertiary medical center. Although these factors affect the generalizability of the findings, we did reach saturation of topics (ie, no new themes emerged) by the 25th interview and thus feel confident that a larger sample size would not have yielded additional information. We studied decision making around intended use of acupuncture rather than actual use, so the factors may not fully capture the complexity of a true clinical decision. In addition, we conducted research from the perspectives of a PCP who practices integrative medicine (JJM) and a medical anthropologist (FB); thus, some degree of bias may present in our interpretation of the data. However, we often negotiated our different world views during research meetings. Finally, qualitative research seeks to identify a range of issues that are important among a group of people. It should not be used to infer causation or to quantify the magnitude of difference between groups in terms of beliefs or behaviors.

Figure 1. Factors Linking Acupuncture with Symptoms of Hot flashes (FLASH Model).



Conclusions

Because early detection and better treatments for breast cancer have decreased mortality rates, the survivorship period has become a new area of research and importance. PCPs and oncologists need a range of options for women who are experiencing distressing HFs as a result of their breast cancer treatment. The evaluation of acupuncture for HFs is limited and ongoing; thus, the evidence base for it is limited, with conflicting results.³² This raises the dilemma for physicians to recommend for or recommend against acupuncture. In a situation in which there is no clear winner, incorporating patients' perspectives may lead to more satisfied decision making and outcomes. Our study found that acupuncture may be more congruent with some women's preferences for natural approaches to symptom management, thereby minimizing the need for additional medication. Clinicians need to understand that perceptions about the attributes of acupuncture are likely to vary according to racial group and symptom burden. When establishing the effectiveness of acupuncture in the real world, researchers must account for this variation in the acupuncture interventions that they test. Because PCPs play a critical role in decision support for cancer survivors, this understanding may help facilitate patient-centered communication to assist patients in choosing therapeutic options that are

acceptable and lead to symptom reduction and a better quality of life.

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