
ORIGINAL RESEARCH—ONCOLOGY

**Female Sexual Health Training for Oncology Providers:
New Applications**

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ABSTRACT

Introduction. Sexual health care remains an unmet need for women with cancer. Many barriers are described, such as provider discomfort and lack of training; however, there is little evidence-based guidance regarding how to effectively address these obstacles.

Aim. This pilot study was performed to determine whether brief, targeted sexual health training for oncology providers results in improved provider comfort level and frequency of addressing female cancer-related sexual issues.

Methods. A brief (30–45 minute), targeted sexual health training program focused on improving comfort level, knowledge and communication skills when addressing breast cancer-related sexual issues was developed by the primary author. Using a pretest-posttest format, this educational program was provided to oncology providers (physicians and nurses/other allied health) from a suburban health-care system. Surveys based on 5-point Likert scales were provided before and 3–6 month post training.

Main Outcome Measures. Primary endpoints were changes in mean Likert scores for provider comfort level and self-reported frequency of addressing sexual issues. A secondary endpoint was change in mean Likert scores for perception of access to sexual health resources/referrals.

Results. Eligible respondents included 8 oncologists, 4 surgeons, and 62 nurses/other allied health. For total respondents, comparison of mean Likert scores for survey 1 (n = 71) and survey 2 (n = 36) demonstrated statistically significant increases for all parameters queried, including provider comfort level with bringing up (Pre mean Likert score = 3.4, Post = 4.3, $P < 0.0001$) and coordinating care (Pre = 3.5, Post = 4.6, $P < 0.0001$), and frequency of addressing sexual issues for both diagnosis/treatment and surveillance phase (Pre = 2.4, Post = 3.3, $P \leq 0.0052$).

Conclusion. Brief, targeted sexual health training for oncology providers positively correlated with improved provider comfort level and frequency of addressing female cancer-related sexual issues. **Wang LY, Pierdomenico A, Lefkowitz A, and Brandt R. Female sexual health training for oncology providers: New applications. Sex Med 2015;3:189–197.**

Key Words. Breast Cancer; Female Sexual Health; Sexual Dysfunction; Oncologists; Nurses; Sexual Health Training; Education

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Introduction

Female cancer-related sexual issues are common and are often associated with the emotional and physical side effects of treatment, as well as with the cancer diagnosis itself [1–3]. Unlike many other cancer-related side effects, female sexual issues (such as dyspareunia, poor body image, and relationship distress) can be long lasting and can worsen with time [4,5]. Many women with cancer value sexuality as an important aspect of quality of life and are interested in cancer-related sexual health information, in both the diagnosis/treatment phase and surveillance phase [6–8]. Despite these findings, female cancer-related sexual issues remain frequently under-addressed [6–8].

As a result, the Institute of Medicine (IOM), along with many oncology and sexual health organizations, have recommended addressing sexual function as part of standard survivorship care [9–14]. These recommendations are pertinent to both oncology and sexual health providers, given the American College of Surgeons (ACS) Commission on Cancer requirement for all ACS-accredited cancer facilities to phase in provision of formal Survivorship Care Plans to patients beginning in 2015 [15].

The American Society of Clinical Oncology (ASCO) recently published recommendations for achieving high quality cancer survivorship care (2013), which call for an expansion of oncology provider education promoting interdisciplinary, shared care models of survivorship care delivery, as well as additional research on identifying and building strategies to address knowledge gaps in health related outcomes [16]. This is particularly relevant for female cancer-related sexual issues, as research has focused on delineating sexual issues and identifying provider barriers, such as discomfort with discussion, inadequate training, and lack of available resources [17–21]. Unfortunately, there is little evidence-based guidance for reducing these barriers and educating oncology providers in a way that improves delivery of sexual health care for women with cancer. The sparse data on female sexual health training for oncology providers are heterogeneous in design, do not include education for attending physicians, and lack behavioral outcome measures [22–25].

Aims

As sexual health is a necessary aspect of female cancer-related care and a paucity of data exists

regarding how best to train oncology providers to manage this topic, we developed a pilot study to begin addressing this knowledge gap. Our hypothesis was that brief, targeted, female sexual health training would result in improved provider comfort level and frequency of addressing female cancer-related sexual issues.

Methods

Participants

All oncology providers for breast cancer care from a suburban, four-hospital health-care system were invited to participate in a 30–45 minute targeted sexual health training: Breast Cancer and Female Sexual Health. Participating oncology providers included medical and radiation oncologists, breast surgeons, nurses and other allied health (PANNPs, geneticists, physical therapists, and mental health professionals). Participants were asked to voluntarily complete an original 8-item survey (S1) prior to the training, followed by a 10-item survey (S2), given 3–6 months post training. Participants were eligible for the study if they were a member of the health-care system, an oncology provider for women with breast cancer, had patient contact, attended the sexual health training, and completed either or both surveys (Figure 1; Study Profile). The authors were excluded from the study. Both surveys included a statement of consent for participation, and were completed anonymously. The study protocol was reviewed by an internal IRB and considered exempt from formal review.

Study Design

This pilot study was a one group pretest-posttest design, conducted from April to October 2014. The intervention was a brief, targeted sexual health training (Breast Cancer and Female Sexual Health), which was developed and given by the primary author (L.W.) at each hospital. The average length of presentation was 30–45 minutes, depending on the time availability of the participant site. Training core objectives were improvement of provider comfort level, knowledge, and communication skills with addressing breast cancer-related sexual health issues. The program included traditional didactic education, as well as communication skills training via brief role play and the introduction of a user-friendly sexual health assessment tool (Figure 2. “Did you CARD her?”) developed by the primary author. This sexual health assessment tool directs the provider to initiate the conversa-

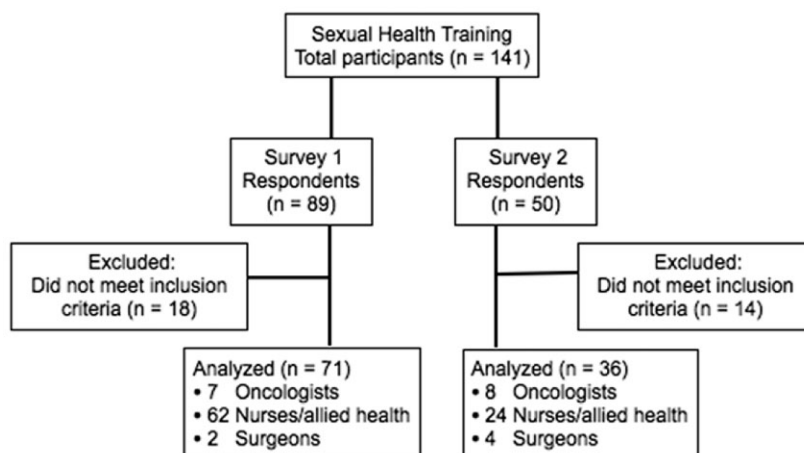


Figure 1 Study profile

tion, validate the patient’s concerns, ask questions based on context and comfort level, and then coordinate care. Table 1 details the components of the targeted sexual health training.

Survey 1 (S1), a voluntary and anonymous paper survey, was given immediately prior to the training. S1 assessed providers’ baseline knowledge of

female cancer-related sexual issues, perceived access to sexual health resource/referrals, comfort level and self-reported frequency of addressing breast cancer-related sexual issues. “Addressing sexual issues” was further delineated into four components: bringing up, evaluating, treating, and coordinating care. Responses were recorded using

Cancer treatment can affect our sexual health, which is important to many women and couple’s quality of life.	
<p>Ask: Do you have any questions/concerns about</p> <ul style="list-style-type: none"> ... Fertility, Menopause, or Sexual Health? ... Sexual Health? ... Vaginal dryness, pain or sexual issues? 	} Can ask broad vs. specific question
Resources/referrals: If you’re interested, I can connect you to...	
Document: “Addressed sexual health concerns, resources/referrals given.”	

Figure 2 Proposed sexual health assessment: Did you CARD her?

Table 1 Components of targeted sexual health training: breast cancer and female sexual health

- **Define Sexual Health:** state of physical, emotional, mental and social well being in relationship to sexuality (WHO, 2006)
- **Review normal female sexual response cycles, effects of menopause and aging**
- **Discuss sexual side effects of breast cancer and treatment:** including biological, psychosocial and relational effects
- **Review prevalence and long-term nature of female cancer-related sexual issues**
- **Review recent DSM revisions for Female Sexual Dysfunction:** DSM 5 (2013)
- **Define Couples Sexual Health:** conceptualized as a combination of both emotional and physical connection, not performance-driven
- **Review current recommendations for providing cancer-related sexual health care**
- **Present national and local cancer-related sexual health resources/referrals**
- **Discuss case vignettes** on common female cancer-related sexual health issues: vaginal dryness, low desire, and relationship discord
- **Participants briefly role play a sexual health assessment tool:** “Did you CARD her?”
- **Reframe cancer team’s role in addressing sexual health as primarily:** “Bringing up and coordinating care”, not necessarily “Evaluation and Treatment”

a 5-point Likert scale: minimum = 1 (Strongly disagree/None of my patients), maximum = 5 (Strongly agree/ All of my patients).

Survey 2 (S2) was also voluntary and anonymous, given 3–6 months post training and collected primarily via web-based survey (67%, software: Survey Monkey), with the remainder being paper surveys (33%). S2 comprised of repeated sections from S1, with additional questions assessing provider satisfaction with the training. Incentives were not offered for completion of the surveys, and two follow-up emails were sent to nonresponders of survey 2. (Appendix S1: Survey 1, Appendix S2: Survey 2)

Pre and post survey responses of total eligible respondents were analyzed, as well as the subcohorts of physicians (oncologists and breast surgeons), and nurses/other allied health. Primary endpoints were changes in mean Likert scores for provider comfort level and self-reported frequency of addressing breast cancer-related sexual issues. A secondary endpoint was change in mean Likert scores for provider perception of access to sexual health resources/referrals. Positive response rates were calculated by combining Likert level 4 responses (Agree/Most of my patients) with Likert level 5 responses (Strongly agree/All of my patients).

Statistical Methods

Statistical methods for this analysis were used to determine significant changes in the mean response and the distribution of responses from Survey 1 to Survey 2. For comparison of means across the two surveys, the non-parametric Mann-Whitney test was used. For comparison of distribution of responses, the Chi-Square test was used. All tests were one-sided, and used a 0.05 level of significance ($\alpha = 0.05$).

Main Outcome Measures

The main outcomes measures were the changes in mean Likert scores for provider comfort level and self-reported frequency of addressing breast cancer-related sexual issues.

Results

Sample Characteristics

Out of 141 participants screened, 71 survey 1 respondents, and 36 survey 2 respondents were eligible for study analysis, based on original eligibility criteria. Eligible survey 1 respondents ($n = 71$) included 7 oncologists, 2 surgeons, and 62

Table 2 Characteristics of eligible respondents

Characteristic	Survey 1 n (%)	Survey 2 n (%)
All eligible respondents	71	36
Oncologists	7 (9.9)	8 (22.2)
Surgeons	2 (2.8)	4 (11.1)
Nurses/other allied health	62 (87.3)	24 (66.7)
Age		
18–30 years old	8 (11.3)	4 (11.1)
31–50 years old	26 (36.6)	13 (36.1)
51 or older	29 (40.8)	18 (50.0)
Unknown	8 (11.3)	1 (2.8)
Gender		
Female	57 (80.3)	30 (83.3)
Male	5 (7.0)	5 (13.9)
Unknown	9 (12.7)	1 (2.8)
Years in practice		
Less than 5 year	7 (9.9)	7 (19.4)
5–10 years	16 (22.5)	3 (8.3)
Over 10 years	40 (56.3)	23 (63.9)
Unknown	8 (11.3)	3 (8.3)

nurses/allied health. Eligible survey 2 respondents ($n = 36$) included 8 oncologists, 4 surgeons, and 24 nurses/allied health. The characteristics of the eligible respondents are summarized in Table 2. Demographic questions on age, gender, and years in practice were voluntary. Respondents for both survey 1 and survey 2 were predominantly nurses/other allied health (S1: 87.3% and S2: 66.7%), 51 or older (40.8% and 50.0%), female (80.3% and 83.3%), and with over 10 year in practice (56.3% and 63.9%). The nurses/other allied health were a mix of inpatient and outpatient providers, however their work location status was not specifically tracked. Both surveys were similar in age and gender, with the largest demographic difference being more physicians in survey 2 (33.3% vs. 12.7% S1).

Table 3 presents the survey respondents' mean Likert scores, and Figure 3 presents the positive response rates of total respondents. Positive response rates were calculated by combining Likert level 4 responses (Agree/Most of my patients) with Likert level 5 responses (Strongly agree/All of my patients).

Baseline Provider Comfort Level and Frequency of Addressing Sexual Issues

Although greater than 85% of respondents agreed that many women with cancer were interested in sexual health information, less than 50% of respondents felt comfortable bringing up and coordinating care, and less than 25% of respondents actively addressed sexual health for the majority of their patients (Figure 3).

Table 3 Survey respondents mean Likert scores

Question: For breast cancer related sexual issues . . .	Total respondents			Physicians			Nurses/other allied health		
	Pre	Post	P	Pre	Post	P	Pre	Post	P
I feel comfortable . . .									
Bringing up	3.4	4.3	<0.0001*	3.8	4.6	0.0419*	3.4	4.2	0.0013*
Evaluating	3.1	3.9	0.0005*	3.5	4.0	0.2618	3.0	3.9	0.0028*
Treating	2.7	3.6	0.0005*	2.6	3.8	0.0422*	2.7	3.6	0.0073*
Coordinating care	3.5	4.6	<0.0001*	4.2	4.7	0.3903	3.4	4.5	0.0003*
I actively address . . .									
Bringing up	2.4	3.1	0.0085*	2.9	3.5	0.3430	2.3	3.0	0.0206*
Evaluating	2.1	2.9	0.0100*	3.1	3.2	0.9546	2.0	3.0	0.0167*
Treating	1.9	2.6	0.0086*	2.7	2.7	1.0000	1.8	2.7	0.0155*
Coordinating care	2.4	3.3	0.0006*	3.6	3.8	0.7488	2.3	3.6	0.0002*
During the dx/tx phase	2.4	3.3	0.0001*	2.9	3.7	0.2497	2.0	3.3	0.0005*
During surveillance phase	2.4	3.3	0.0052*	2.9	3.0	0.5803	2.0	3.1	0.0084*
I have access to resources and referrals . . .	2.9	4.2	<0.0001*	3.8	4.5	0.0301*	2.8	4.0	0.0003*

Min = 1, max = 5, *denotes statistical significance at 0.05 level

Likert Scale for agree/disagree questions: 1—Strongly Disagree; 2—Disagree; 3—Neither Agree nor disagree; 4—Agree; 5—Strongly Agree; 6—N/A was excluded in this analysis

Likert Scale for self-reported frequency questions: 1—None of my patients; 2—Some of my patients; 3—Half of my patients; 4—Most of my patients; 5—All of my patients; 6—N/A was excluded in this analysis

Changes in Provider Comfort Level with Addressing Sexual Issues

Total respondents comparison of mean Likert scores for survey 1 (n = 71) vs. survey 2 (n = 36)

demonstrates statistically significant increases in provider comfort levels with addressing breast cancer-related sexual issues, for all subcategories queried: bringing up, evaluating, treating, and

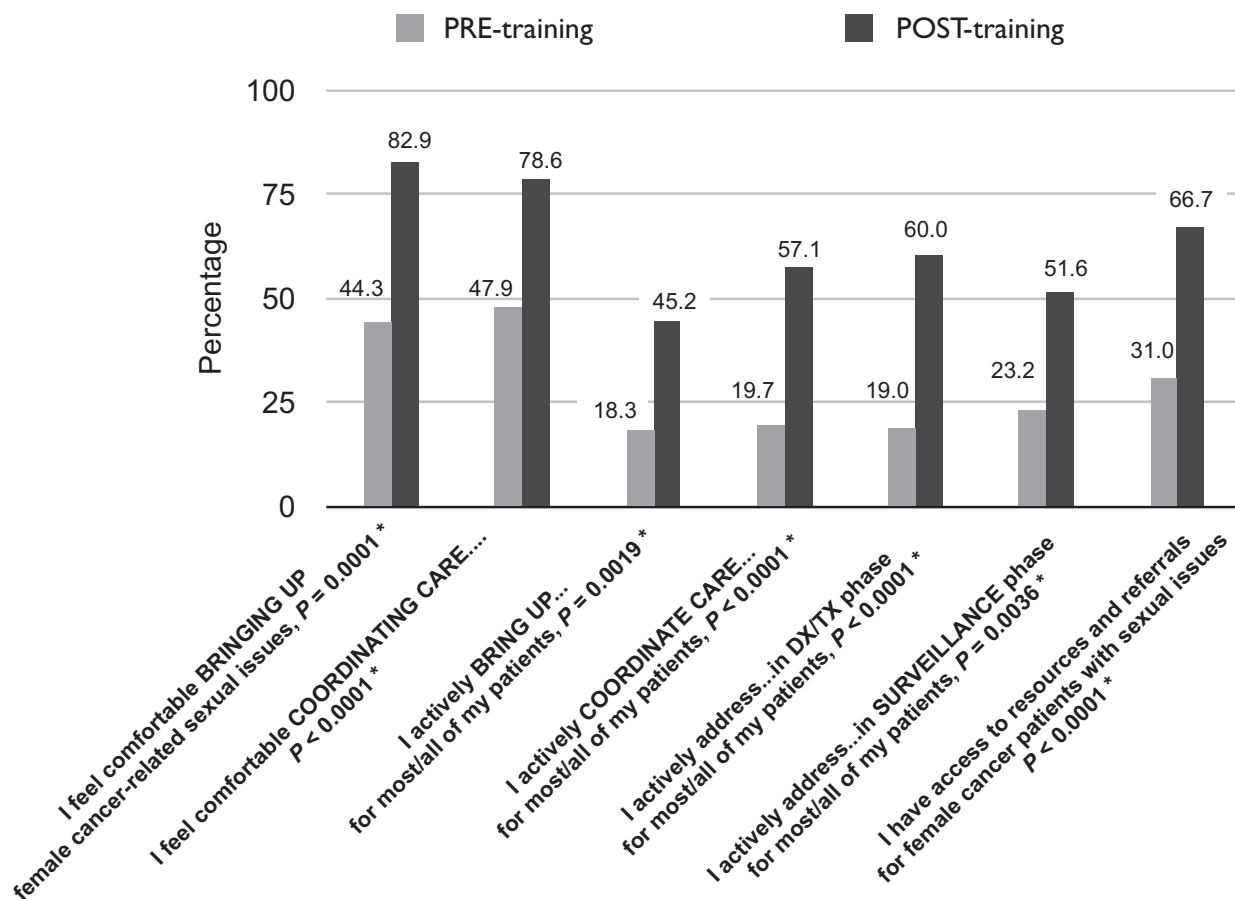


Figure 3 Positive response rates for total respondents, Pre vs. Post-training, *denotes statistical significance at 0.05 level

coordinating care ($P \leq 0.0005$, Table 3). Total respondents positive response rates showed statistically significant increases in provider comfort level with bringing up (Pre: 44.3% to Post: 82.9%, $P = 0.0001$, Figure 3) and coordinating care (Pre: 47.9% to Post: 78.6%, $P < 0.0001$).

Changes in Provider Frequency of Addressing Sexual Issues

Comparison of Total respondents' mean Likert scores for S1 vs. S2 demonstrates statistically significant improvement in provider frequency of addressing cancer-related sexual issues for all parameters queried: bringing up, evaluating, treating, coordinating care, during diagnosis/treatment phase and during surveillance phase ($P \leq 0.0100$, Table 3). Total respondents positive response rates significantly increased for bringing up (Pre: 18.3% to Post: 45.2%, $P = 0.0019$, Figure 3) and coordinating care (Pre: 19.7% to Post: 57.1%, $P < 0.0001$), as well as provision of sexual health care during the diagnosis/treatment phase (Pre: 19.0% to Post: 60.0%, $P < 0.0001$) and surveillance phase (Pre: 23.2% to Post: 51.6%, $P = 0.0036$).

Changes in Provider Rating of Access to Sexual Health Resources/Referrals

Total respondents' comparison of mean Likert scores for S1 vs. S2 demonstrates statistically significant increase in provider rating of access to female cancer-related sexual health resources/referrals (Pre = 2.9, Post = 4.2, $P < 0.0001$). The corresponding positive response rates increased from Pre: 31.0% to Post: 66.7% ($P < 0.0001$).

Physician Responses

Total physician analysis, which included oncologists and breast surgeons, (S1 $n = 9$, S2 $n = 12$), demonstrated statistically significant increase in comfort level with bringing up and treating breast cancer-related sexual issues, as well as increased access to cancer-related sexual health resources/referrals (Table 3). The physician cohort's highest mean Likert scores were in survey 2, in the following categories: comfort with bringing up and coordinating care, and perception of access to resources/referrals.

Nurses/Other Allied Health Responses

Total nurses/other allied health analysis (S1 $n = 62$, S2 $n = 24$) demonstrated statistically significant improvement in all parameters queried (Table 3). The highest mean Likert scores for nurses/other allied health were also in survey 2; they were

slightly lower, but mirrored those of the physicians: comfort with bringing up and coordinating care, and perception of access to resources/referrals.

Provider Attitudes about Targeted Sexual Health Training

Survey 2 assessed participants' attitudes about the targeted sexual health training (results not shown, $n = 23$ responses for question series). Over ninety percent of respondents agreed their knowledge base on sexual health was enhanced, the lecture content was useful and relevant to their area of practice, and they gained new strategies and skills that could be applied to their area of practice.

Discussion

This pilot study demonstrated that brief, targeted sexual health training for oncology providers positively correlated with improved provider comfort level and frequency of addressing female cancer-related sexual issues, for both the diagnosis/treatment phase and surveillance phase of care. To the authors' knowledge, this is the first study on female sexual health training for oncology providers that included education for attending physicians and behavioral outcome measures.

The targeted sexual health training, on average 30–45 minutes in length, focused on improving oncology providers' comfort level, knowledge, and communication skills with addressing breast cancer-related sexual issues. The framework of the sexual health training was based on the World Health Organization's (WHO) holistic definition of sexual health as "a state of physical, emotional, mental and social well-being in relation to sexuality [26]." Relationship health was also highlighted, as a recent large study demonstrated that being married had beneficial effects on cancer detection, treatment and survival [27]. Research has also shown that in the context of cancer, relationship satisfaction is an important predictor of sexual functioning, as well as the ability to redefine sex to be about intimacy, not performance driven [28–30]. Participants were also educated about cancer-related sexual issues, national and local sexual health resources/referrals [31–33], and sexual health assessment models. Sexual health assessment was recommended for all women at some point in the diagnosis/treatment phase, as well as the surveillance phase, as studies have shown that women, including non-heterosexual, non-partnered, older, or with metastatic disease, have interest in sexual health information during all phases of care [6–8,34].

While there are several excellent clinical sexual health assessments [18,35–38] that can be used by oncology providers, some health-care providers may not have the time or comfort level to initiate discussion and provide the variable degrees of sexual health information that these assessment tools describe. To address these communication barriers, the primary author designed the following sexual health assessment tool, which was taught as part of the training: “**Did you CARD her?**” (Figure 2). This mnemonic encourages health-care providers with variable levels of comfort and sexual health knowledge to focus on those tasks necessary for successful provision of sexual health care: initiate conversation, validate the patient’s concerns, ask questions based on context and comfort level, and then smoothly transition to coordination of care. This approach also allows for the discussion to be brief and honors the patient’s individual needs and preferences (ie. disinterest in discussion, cultural sensitivities, or preference for written material).

Given the recognized importance of experiential learning in communication skills training for oncology providers [39], the training for most participants included a brief role play of assessing sexual health via “Did you CARD her?” This model of assessment was well received by the physicians and nurses/other allied health, and has been incorporated as a tool for sexual health screening by the participating breast care centers.

Oncology providers have also cited other structural barriers to providing sexual health care, such as lack of privacy and a heavy workload [17,21]. This, along with the projected nursing and oncologist shortage [40], understandably hinders the cancer team’s ability to deliver comprehensive sexual health care. Furthermore, evaluation and treatment of cancer-related sexual issues is often a complex interrelation of biological, psychosocial and relational components that are difficult to assess in a short time frame, and best managed via multidisciplinary approach [41–46]. The targeted sexual health training acknowledged these concerns by clarifying the oncology providers’ role in addressing sexual issues to be about “bringing up and coordinating care” and not necessarily “evaluation and treatment,” which could be referred to local sexual health providers, such as sex counselors and therapists. This concept was congruent with the study data, which showed higher provider comfort levels for bringing up and coordinating care, as compared to evaluation and treatment.

This was demonstrated in both pre and post training surveys.

Total respondent perception of access to sexual health resources/referrals increased in this study, from a positive response rate of 31% pre training to 66.7% post training ($P < 0.0001$). This improvement likely reflects increased provider awareness of resources/referrals, as the availability of national and local sexual health resources/referrals was present before the study.

The principle weaknesses of the pilot study are the survey anonymity and large attrition rate; therefore accurate tracking of specific participant response changes over time was not possible in this study. Nonetheless, all parameters queried for total respondents and nurses/other allied health, as well as some aspects of physician analysis, have statistical significance. Original surveys to assess endpoints noted were used because none of the currently available scales addressed the specific endpoints of comfort level, self-reported frequency, or delineated “addressed sexual health” into four components (bringing up, coordination of care, evaluation and treatment).

An anonymous survey was chosen because of the uniqueness of circumstances. The training topic (Breast Cancer and Female Sexual Health) was a new addition to the health system’s lecture series, and the authors were concerned that asking providers to complete a non-anonymous survey on a culturally sensitive subject would result in a low response rate, as well as increase the risk of social desirability bias (tendency of survey respondents to answer questions in a manner that will be viewed favorably by others).

The large attrition rate between surveys (49%) may be partly related to response bias, where responders are theoretically the providers who were most motivated and/or more comfortable with sexual health. However, the authors suspect that the attrition rate was significantly related to the larger systemic challenges of surveying health-care providers, who have historically lower response rates (RR) compared to the general population. A recent meta-analysis of surveys among health-care professionals estimated an overall survey RR of 53%, with a significant downward trend during the last half century [47]. This meta-analysis also describes the main variables found to be related to higher response rates: mode of data collection (57% RR for mail surveys vs. 38% for web surveys), monetary incentives, and number of follow-ups (one and two were optimal). Unfortunately, this study’s high attrition rate from survey 1 (paper

based) to survey 2 (predominantly web based) seem consistent with the meta-analysis findings. Given the limited resources, a web-based survey method was chosen for survey 2, and incentives were not offered for either survey. Two follow-up emails were sent to nonresponders of survey 2. Of note, the attrition rate was in the nurse/allied health cohort, which was predominantly female. This trend seems consistent with literature finding that female health-care providers are less inclined to respond to web surveys than males [48].

In an effort to address the limitations of an anonymous survey, as well as the potential response bias related to the large attrition rate, we reviewed data from a site within the health-care system (subcohort-1) that had a 0% attrition rate among eligible respondents between surveys. The respondents in this subcohort were identical from survey 1 to 2, represents one of our health-care system's breast care teams, and consisted of 3 oncologists, 1 surgeon, and 4 nurses/other allied health. The sample size was small ($n = 8$), but the response trend of subcohort-1 nearly mirrors that of the larger sample (All respondents). Improvement in mean Likert score of "comfort in bringing up sexual health" was the only query within this sub-cohort that reached statistical significance ($P = 0.0491$, data not shown), whereas all parameters queried for Total respondents demonstrated statistically significant increases ($P \leq 0.0100$).

While the subcohort-1 analysis is somewhat reassuring, limitations of survey anonymity and high attrition rate remain concerning. Ideally, a prospective survey with tracked responses would most accurately reflect change in participant responses over time. Future studies with greater number of participants, attention to methods of optimizing response rates among health-care providers, and randomization would be helpful to parse out the significance of these factors. Additional research is needed to explore differences between provision of sexual health care with inpatient vs. outpatient oncology providers, developments in female sexual health training for non-breast care providers, and most importantly, answer the question of whether female sexual health training for oncology providers translates to improved patient satisfaction and quality of life.

Conclusions

Despite its aforementioned limitations, this pilot study demonstrates that brief, targeted sexual health training for oncology providers, focusing

on improving provider comfort level, knowledge, and communications skills positively correlates with improved provider comfort level and frequency of addressing female cancer-related sexual issues.

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Supporting Information

Additional Supporting Information may be found in the online version of this article at the publisher's web-site:

Appendix S1 Survey 1.

Appendix S2 Survey 2.