



# Investigating the impact of the COVID-19 pandemic on breast cancer clinicians' communication about sexual health

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## Abstract

**Purpose** We assessed breast cancer clinicians' perspectives on how the COVID-19 pandemic and increased use of telehealth affected their clinical communication about sexual health.

**Methods** Breast cancer clinicians participating in a sexual health communication intervention study ( $N=29$ ; 76% female; 66% oncologists; 34% advanced practice clinicians) completed an online survey. Data analysis consisted of descriptive statistics and thematic analysis.

**Results** All clinicians were using telehealth, with most (66%) using it for up to half of their clinic appointments. Although only 14% of clinicians reported having shorter clinic visits, 28% reported having less time to discuss sexual health; 69% reported no change; and 3% said they had more time. Forty-one percent reported sexual health was less of a priority; 55% reported no change; and 3% said it was more of a priority. Thirty-five percent reported telehealth was less conducive to discussing sexual health; 59% reported no change; and 7% reported more conducive. Qualitative analysis revealed key issues underlying the perceived impact of the pandemic on discussions of sexual health including heightened clinician discomfort discussing such issues via telehealth, the less personal nature and privacy issues in telehealth visits, increased concerns about risk of COVID-19 infection and other health concerns (e.g., missing recurrence, mental health) taking priority, and clinician-perceived patient factors (e.g., discomfort, decreased priority) in discussing sexual concerns.

**Conclusion** Pandemic-related changes in breast cancer clinicians' practice could be exacerbating challenges to discussing sexual health. Methods for integrating sexual health into cancer care are needed, regardless of the mode of delivery.

**Keywords** Breast neoplasms · COVID-19 · Telemedicine · Health communication · Sexual health

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## Introduction

Breast cancer patients commonly experience sexual concerns related to their diagnosis and treatments [1, 2]. Despite consensus that cancer clinicians should raise the topic of sexual side effects with patients [3–5], research suggests these discussions occur for the minority of women with breast cancer [6, 7]. Obstacles to communication include perceived lack of time and training for discussing sexual health, discomfort with the topic, and the belief that other health concerns take precedence [8, 9]. Moreover, some clinicians may believe that patients will raise sexual concerns if they are experiencing them [9], although there is growing evidence to the contrary [10]. In this study, we examine how significant changes in oncology care associated with the COVID-19 pandemic could be posing further challenges to patient–clinician communication of sexual concerns.

Telehealth replaced many in-person clinical oncology visits during the pandemic [11–13], providing an opportunity to examine potential benefits and limitations of this approach when discussing sensitive topics [14, 15]. Some have suggested that telehealth for clinical encounters might compromise the building of the patient–clinician connection relative to face-to-face visits [13], but evidence to date is scant. For instance, a recent systematic review of 53 peer-reviewed papers examining clinical communication in oncology during the pandemic [15] revealed none that focused on communication about sexual health. Given the importance of establishing a trusting patient–clinician relationship as the foundation for discussing sensitive topics like sexual health concerns in breast cancer [8], we suspected that the pandemic and increased reliance on telehealth could be adversely affecting clinical discussions of such concerns.

This study's objective was to assess perspectives on how the pandemic has affected clinical communication about sexual health through analyzing survey data from clinicians participating in a pilot trial of a breast cancer clinician sexual health communication intervention [16]. First, we examined the extent of change in the clinical practice (i.e., current and first time use of telehealth for clinic encounters, mode of delivery of telehealth visits [phone vs. video], and change in clinic volume, length of encounters, or availability of support staff). Second, we examined clinicians' perceptions of changes in (1) time available to discuss sexual health with their breast cancer patients, (2) format (e.g., telehealth use) impacting discussion of sexual health, and (3) priority for discussing sexual health, as well as general perceptions of change in communication about sexual health with breast cancer patients.

## Materials and methods

### Research design and setting

This study consists of an analysis of cross-sectional survey data obtained from a pilot study of a mobile technology-based intervention aimed at enhancing breast cancer clinicians' knowledge, beliefs, and comfort with discussing sexual health concerns [16]. The study was approved by the relevant Institutional Review Board (#18–1068) and registered on clinicaltrials.gov (NCT04262219).

### Participants

Thirty-two medical oncologists or oncology advanced practice clinicians treating breast cancer patients were enrolled onto the pilot trial, 29 of whom completed the COVID-19 survey items and are included in the present analytic sample. The sample size for the pilot study was selected because it facilitated meeting the objectives of the study, which were to test the feasibility, acceptability, and preliminary effects of the sexual health communication intervention described in the previous paragraph. Further details of the sample and recruitment to the pilot study have been described elsewhere [16].

### Recruitment and procedures

Clinicians were recruited from 9 cancer centers, which included comprehensive and community cancer centers, during staff meetings or through direct contact with the PI or a colleague. Introductory emails were sent to clinicians along with links to a REDCap screening questionnaire between May 29, 2020, and October 12, 2020. Participants received \$100 compensation.

### Measures

COVID-19 pandemic impact items were developed using input from experts in clinical oncology and breast cancer, sexual health, and clinical communication (see [Supplemental File](#)). Seven closed-ended items assessed changes in practice (i.e., use of telehealth [phone/video] for clinic encounters), change in clinic volume or length of encounters, and change in availability of support staff. Three closed-ended items assessed clinicians' perceptions of a change in (1) time available to discuss sexual health, (2) format impacting discussion of sexual health, and (3) priority for discussing sexual health, with three response options for each of the items indicating no change, more (time; conducive; priority), or less (time; conducive; priority). For those endorsing a change for format and priority, a follow-up open-ended question asked

them to explain the change; these items were included to provide a greater depth of understanding of clinicians' responses to closed-ended items. An additional open-ended item asked clinicians to "describe any changes in your communication about sexual health with breast cancer patients in clinical visits due to the pandemic." This question was designed to capture aspects of perceived pandemic-related changes in sexual health communication that could have been missed in the close-ended questions.

## Analysis

Socio-demographic characteristics of the study sample and responses to closed-ended survey items were characterized using descriptive statistics using SPSS Statistics version 24 (IBM Corp). Binomial or multinomial [17] 95% confidence intervals were calculated for proportions. Open-ended responses were analyzed using thematic analysis [18], with responses grouped with others by item based on thematic similarity by two coders (JBR, CC). Open-ended responses were organized by theme in Excel.

## Results

### Participants

Of the 29 participating clinicians, 19 (66%) were medical oncologists, 7 (24%) were nurse practitioners, and 3 (10%) were physician assistants. The mean age of participants was 41.8 (SD=9.9; range=24–61). Most clinicians ( $n=21$ ; 72%) identified as white, 6 (21%) identified as Asian/Southeast Asian, 1 (3%) identified as Black, and 1 (3%) identified as other. Three clinicians (10%) identified as Hispanic/Latino. Twenty-two (76%) identified as female. Ten (35%) had  $\leq 5$  years in practice, 12 (41%) had 6–15 years, and 7 (24%) had  $> 15$  years.

### Current telehealth use and general impact of pandemic on practice

All clinicians reported using telehealth, most (93%) for the first time (see Table 1). About two-thirds of clinicians (66%) reported using telehealth for up to half of their clinical encounters, whereas the remainder were using telehealth for over half their clinical encounters. Clinicians tended to rely on a single mode for telehealth delivery, either phone (43%) or video (46%), rather than using both modes equally (11%). Most clinicians (62%) reported a decrease in their clinic volume, but about one-third reported no change, and only 7% reported an increase. Similarly, most clinicians (63%) reported no change in the length of their clinic visits, whereas nearly a quarter reported longer visits, and 14% reported shorter visits. Over half of clinicians (55%) reported a decrease in availability of support staff.

**Table 1** Current telehealth use and general changes in clinical practice

Item	N (%)	Lower CI	Upper CI
<b>General use</b>			
Using telehealth in practice	29 (100%)	88%	100%
First time using telehealth	27 (93%)	77%	99%
Using telehealth > 50% visits	10 (34%)	18%	54%
<b>Telehealth mode</b>			
Equal use of phone and video	3 (11%)	0%	29%
More video than phone	13 (46%)	29%	65%
More phone than video	12 (43%)	25%	61%
<b>Volume of clinic</b>			
No change in clinic volume	9 (31%)	17%	51%
Clinic volume increased	2 (7%)	0%	27%
Clinic volume decreased	18 (62%)	48%	82%
<b>Clinic visit length</b>			
No change in visit length	18 (62%)	48%	82%
Shorter visits	4 (14%)	0%	33%
Longer visits	7 (24%)	10%	44%
<b>Availability of support staff</b>			
No change	13 (45%)	31%	65%
Less availability of support staff	16 (55%)	41%	76%

Data are available from all 29 participants for all items except for the telehealth mode item, which was completed by 28 clinicians. Lower and upper 95% confidence intervals (CI's) are presented

### Impact of pandemic and telehealth on discussion of sexual health

Responses to survey items assessing clinicians' perceived impact of the pandemic and telehealth on discussions of telehealth are shown in Table 2. With regard to time available for discussing sexual health, 69% of clinicians reported no change, compared to nearly one-third (28%) reporting less time to discuss sexual health; only one clinician (3%) reported more time. Regarding format of the clinical encounters, most clinicians (59%) reported the change in format (e.g., increased use of telehealth) was not impacting the discussion of sexual health, although over one-third (35%) reported that the change was less conducive to discussing sexual health; two clinicians (7%) reported that the change was more conducive to such discussions.<sup>1</sup> Finally, although over half of clinicians (55%) reported no change in their perceived

<sup>1</sup> We conducted an exploratory Fisher's exact test to examine whether the mode of delivery (phone vs. video) might be impacting perception of the format change as less conducive to discussing sexual health. Four of the 12 clinicians (33%) using more phone than video reported the format was less conducive to discussing sexual health compared to 4 of 13 using more video than phone, and these proportions were similar ( $p=.61$ ; those using the two modes equally were excluded from this analysis).

**Table 2** Impact of pandemic and telehealth use on discussion of sexual health

Item	N (%)	Lower CI	Upper CI
Time for discussing sexual health			
No change	20 (69%)	55%	87%
Less time to discuss sexual health	8 (28%)	14%	45%
More time to discuss sexual health	1 (3%)	0%	21%
Format of clinic encounter			
No change/does not impact discussions	17 (59%)	45%	79%
Change less conducive to discussing sexual health	10 (35%)	21%	55%
Change more conducive to discussing sexual health	2 (7%)	0%	27%
Priority for discussing sexual health			
No change in priority	16 (55%)	38%	73%
Less of a priority to discuss sexual health	12 (41%)	24%	59%
More of a priority to discuss sexual health	1 (3%)	0%	21%

Lower and upper 95% confidence intervals (CI's) are presented

priority for discussing sexual health, a sizeable minority of clinicians (41%) reported that sexual health was less of a priority to discuss. Only one clinician reported that it was a greater priority to discuss sexual health since the pandemic.

### Qualitative analysis

Responses to open-ended survey items focused on explanations for the impact of changes in the format of the clinic encounter (e.g., telehealth), clinician priority for discussing sexual health, and general changes in the clinical discussion of sexual health. Results of the qualitative analysis are shown in Table 3.

**Format of clinic encounter** Ten clinicians reported changes in clinic format to telehealth to be less conducive to discussing sexual health, citing general discomfort or no specific reason. For instance, one male oncologist stated, “I find it more difficult over the phone/video to have these conversations,” and a female oncologist commented simply, “Would prefer to discuss these issues in person.” Three clinicians directly attributed the less conducive nature of telehealth mode to its less personal nature. For example, one female nurse practitioner stated, “[it] seems more impersonal with patient not in the room with me.” Two clinicians cited privacy concerns, with one female oncologist stating, “I share a workspace with another individual as well, so this seems less private,” and another female physician assistant similarly commented on the decreased privacy in remote visits (see Table 3 for quote). Finally, a female oncologist and a female nurse practitioner reported that the telehealth clinic visits were more conducive to discussing sexual health because of the increased length of time available without having to do a physical exam.

**Priority for discussing sexual health** The majority (9/11) of the clinicians reporting sexual health to be of lower priority for discussion indicated that the pandemic was taking priority in their clinical discussions (see Table 3). For example, a female oncologist noted that “With the pandemic, many patients cite this as the worry that floats to the top of their list.” A male oncologist cited the heightened concerns about risk due to the underlying cancer and treatments for patients, commenting that “More time [is] spent discussing COVID and cancer’s impact on risk of infection.” A female oncologist commented how the social and racial upheaval occurring in the backdrop of the pandemic in the Spring of 2020 had further compounded this change in priority, stating “Pandemic, racial tensions etc.—sexuality seems less pressing all around.” One male oncologist reported that with the pandemic taking front and center, his focus has narrowed to cancer-related concerns including missing symptoms of recurrence, while another noted that anxiety around the virus pushed mental health concerns to the forefront (see Table 3 for quotes). However, two clinicians, both female oncologists, noted that sexual health either remained as important or became more important in light of the increased attention to overall well-being or commented that the impact on the priority depended on the nature of the clinic encounter (see Table 3 for quotes).

**Change in discussion of sexual health** As seen in Table 3, eight clinicians cited reasons underlying less discussion of sexual health currently versus four clinicians indicating no change. Among those citing less discussion, three clinicians commented on the contribution of patient factors including patients’ own priority or comfort in discussing sexual health, with one clinician, a male oncologist, noting that, “...patients do not initiate much—mostly yes and no’s so difficult to get patients to talk freely at times” and a female nurse practitioner commenting, “They [patients] are more

**Table 3** Qualitative analysis of the impact of the COVID-19 pandemic on discussions of sexual health

Question	Key point	Theme	N	Illustrative quote
1. How have changes in the format of your current clinical practice (e.g., increased use of telehealth) impacted discussing sexual health?	Less conducive	General discomfort/preference	4	“Easier to discuss in person than over video/phone.” (Female oncologist)
		More impersonal	3	“In person interaction and human connection when discussing such personal aspects of care is very important.” (Male oncologist)
		Privacy concerns	2	“it feels less comfortable when having a video visit as the privacy can feel less guaranteed.” (Female physician assistant)
		Impact on clinic	1	“We are supposed to be in the room with patients for as short amount of time as possible. Now especially it feels like we need to focus on urgent issues only, so sexual health issues may fall to the bottom of the list.” (Female nurse practitioner)
		No physical exam	2	“Important to ask permission to discuss but since there is more time to talk (no exam) it allows for more open ended questioning.” (Female nurse practitioner)
2. Has the priority for discussing sexual health in your clinic changed? [If so, please explain]	Less of a priority	COVID-related concerns taking priority	9	“More time is spent discussing concerns around COVID leaving less time for other issues including sexual health” (Female oncologist)
		Cancer-related concerns taking priority	1	“It seems to be less of a priority because the patient’s not in the office and [we] were worried about missing either side effects or symptoms of recurrence.” (Male oncologist)
		Other health concerns taking priority	1	“there are other mental health concerns that seem to be in the forefront” (Female nurse practitioner)
		More of a priority or priority depends on mode	1	“Sexual health is an important component of overall wellness, and thus at this time it seems an important priority to address.” (Female oncologist)
		Priority depends on mode of visit	1	“...we are supposed to be limiting exposure to patients when seeing face-to-face, so for face-to-face visits only sexual health issues may fall to the bottom of the priority list. However, in telehealth visits this is not the case. For telehealth visits there has been no change to the amount of time we can speak about these issues and in fact there may be more time to discuss these issues.” (Female oncologist)

**Table 3** (continued)

Question	Key point	Theme	N	Illustrative quote
3. Describe any changes in your communication about sexual health with breast cancer patients in clinical visits due to the pandemic	No changes	No effect of pandemic	4	“No changes have been observed in this regard.” (Female oncologist)
	Less discussion	Patient factors affect communication	3	“In a way it gets put on the back burner and is more likely to be discussed if the patient is otherwise doing quite well.” (Male oncologist)
		Shifting priorities	2	“Communicate less about sexual health due to other priorities and pressures around covid19” (Female oncologist)
		Dependent on mode of clinic encounter	2	“It is more limited during telehealth visits. Part of the issue is the pace of the clinic changes when you’re going back and forth between telehealth and in person visits. The telehealth visits feel rushed at times as you may have patients waiting in person. There’s also frequent technical issues when attempting video calls, which makes communication difficult at times.” (Male oncologist)
		No reason given	1	“It [sexual health communication] definitely has become less” (Male oncologist)

Note: Open-ended responses were solicited when response to the item indicated anything other than “no change” or “no impact”

likely to minimize concerns.” Two clinicians commented on how the mode of the visit directly impacted whether sexual health was likely to be discussed, with one female nurse practitioner stating, “I do not have many phone visits so not much change,” and another clinician (male oncologist) commenting that the telehealth visits felt rushed and often experienced technical issues, which impacted their discussion (see Table 3 for quote). Finally, one clinician remarked on the decrease in communication about sexual health but did not attribute it to a particular cause (see Table 3 for quote). Among the clinicians reporting no change in their communication about sexual health due to the pandemic, three did not elaborate on reasons for this. One clinician (a female oncologist), however, who had indicated no change in discussion due to the pandemic implied a lack of discussion of sexual health prior to the pandemic in stating, “I believe sexual health is extremely important to patients with breast cancer and I likely do not bring it up often enough with my patients since there is not enough time to address other breast cancer treatment concerns and sexual health concerns.”

## Discussion

Results of this study suggest that the COVID-19 pandemic and associated shift to telehealth for clinic encounters could be exacerbating existing barriers to breast cancer clinicians discussing patients’ sexual health concerns. One of the most significant findings was that a sizeable minority of clinicians (41%) reported that the priority for discussing sexual health with their patients had decreased. Comments pointed toward a decrease in their own priority and an assumed decrease in patients’ priority for holding such discussions. Although not all patients want sexual concerns discussed with them at their visit, assuming a low priority could lead clinicians to be less likely to raise the issue with their patients. Given that breast cancer patients’ sexual concerns tend to persist if not addressed [19, 20], if this assumption leads to missed opportunities for discussion among patients experiencing sexual issues, it could be cause for concern. Therefore, to minimize long-term consequences of unaddressed sexual difficulties, clinicians should aim to prepare patients for sexual side effects, identify patients with sexual problems, and assist with planning or referrals [21].

Aside from the pandemic itself, the use of telehealth and thus a remote format for clinical encounters seemed to heighten challenges associated with discussing sexual health concerns, with over one-third of clinicians citing remote clinical encounters as less conducive to discussing sexual concerns with their patients. Several clinicians admitted feeling greater discomfort in discussing sexual health concerns with patients across phone or video. The less personal nature of the remote encounter and lack of guaranteed privacy were

described as key reasons underlying clinicians' discomfort. This discomfort may also be linked to unique features of communicating remotely (e.g., technical difficulties), which could compromise effective communication [22]. Alternatively, it is possible that phone or video may have simply constituted an additional complicating factor to discussing what is already a challenging topic for many clinicians. Further, most clinicians reported using telehealth for the first time, suggesting a clear need for use of telehealth in care delivery.

Resources for addressing clinical communication across remotely conducted clinical visits in oncology are growing [15], although no resources have specifically focused on communication about sexual health. Lessons learned from discussing other sensitive subjects, however, such as palliative care, might be applicable. For instance, one proposed strategy for raising the topic of palliative care is during the initial in-person visit [23], when a major focus is to build rapport with the patient [24] and then to continue the conversation in ongoing telehealth visits. Clinicians could consider capitalizing on that first in-person encounter as a time to raise sexual concerns as well. Further, raising the topic of sexual health at the initial in-person patient visit could also help set the stage for open communication about sexual health and intimacy while being consistent with clinical care recommendations to raise this issue early in patients' care [3, 5, 21, 25]. Incorporating emerging "best practices" in the delivery of palliative care using telehealth (e.g., conveying empathy, reassuring patient of privacy and secure technology) [26] could prove useful in guiding effective telehealth care for patients with sexual concerns, as well. Even beyond discussing sexual health, emerging research with patients with cancer is underscoring the important role of establishing rapport and connection with patients prior to the onset of telehealth for the clinical encounters to optimize care [27]. In sum, there is growing evidence supporting the feasibility and efficacy of palliative care delivered through telehealth [28, 29]; such data is also promising for the ability to hold sexual healthcare discussions in cancer via telehealth effectively.

Indeed, despite clinicians' concerns about discussing sexual health via telehealth, it is worth noting that a number of psychosocial sexual function interventions have been delivered successfully via telephone and videoconference to breast cancer patients and other patient populations [30–32]. That these interventions are generally well-received offers support that sexual health concerns can be discussed effectively with patients remotely. Nevertheless, various strategies might help address limitations of this mode of care when discussing sexual concerns, including assessing privacy and attempting to optimize it when possible, looking directly into the camera to facilitate eye contact, and managing interruptions or lags in the technology [22].

Verbal communication may take on particular importance in smoothing out difficulties in communication in telehealth encounters, such as explicitly acknowledging any issues and clarifying patient statements that may have gotten lost during technical glitches or interruptions [22]. Regarding sexual issues, typically, before asking patients about sexual concerns, a normalizing statement [33, 34] (e.g., "I'd like to ask about sexual health and functioning, as I do with all my patients who are on endocrine therapy") is recommended; when encounters are held remotely, additional clarification might help prepare patients further (e.g., "Before I do, I want to make sure you're in a private place and feel comfortable discussing this. Is it OK to go on?") Moving forward, it will be important to determine which strategies are most effective in facilitating effective clinical communication about sexual issues via telehealth.

There are several study limitations that need to be considered. First, because of the size of the study sample, and the fact that clinicians had agreed to participate in a pilot trial of a sexual health communication intervention, it will be important to replicate in larger samples. Indeed, given that most cancer centers lack substantial sexual health resources [35] and many breast cancer clinicians receive no training in discussing sexual health with their patients [8, 36], receipt of any resources or tools for addressing such concerns could be considered rather unique. Moreover, this study focused on clinicians' experiences; future studies should also examine patients' perspectives of discussing sexual health concerns via telehealth as well as examine how patient clinical factors (e.g., length of time since diagnosis, stage in clinical trajectory) might influence such perspectives or discussions of sexual health communication via telehealth. Second, this study was conducted during a certain time frame in the COVID-19 pandemic. With telehealth continuing on past these acute phases, it is possible that the priority for discussing sexual health could rebound as patients and society on the whole come to grips with the long-term presence of COVID-19 in our lives; this should be examined. Moreover, although we assessed whether phone or video were used more than the other or equally, the study was not designed to determine relative advantages or disadvantages of phone versus video for discussing sexual concerns. There is some evidence that certain patients may prefer clinical encounters that feel more "anonymous," such as via phone, when discussing sensitive topics [37]. How the different features of phone and video modes of care delivery could impact sexual health discussions, as well as patients' preferences regarding such discussions over these different modes, should be examined in greater detail to help guide clinical practice. Moreover, we did not examine how effective the sexual health communication intervention was for improving communication during in-person versus telehealth visits, and this would be important to assess as part of future trials of sexual

health communication interventions. Finally, the sample was limited by its lack of diversity with respect to race and ethnicity, and the majority of clinicians were female. There is scant evidence to suggest that race or gender of clinicians meaningfully influences discussions of sexual health in cancer [7], yet it would nonetheless be important to examine whether factors such as these are associated with pandemic-related impact for discussing sexual health in future studies. Despite these limitations, however, the present study makes a significant contribution to the literature by providing novel information on the issues and practicalities surrounding providing sexual healthcare over telehealth in the context of cancer care.

## Conclusion

As one of the first studies to focus on cancer clinicians' perceptions of the effects of the COVID-19 pandemic and related increase in telehealth on clinical discussions of sexual health, the findings suggest that changes in breast cancer clinicians' practice from COVID-19 could be exacerbating existing challenges to discussing sexual health concerns with patients and potentially creating new ones. Moreover, given that clinicians in the study had access to some information about sexual health in breast cancer through participating in the pilot sexual health communication trial, findings could suggest that even in a sample of clinicians who are uncommonly prepared to have sexual health conversations with patients, telehealth seems to be a barrier to holding such discussions. It is promising that researchers have begun examining the effects of the COVID-19 pandemic on cancer patients' psychosocial needs [38]. With some form of telehealth becoming commonplace for many clinical interactions and unaddressed sexual concerns posing a threat to patients' long-term sexual and relationship well-being, efforts should also include identifying optimal means for integrating sexual health communication into cancer care, regardless of the mode of care delivery.

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**Data availability** Certain data (e.g., unidentifiable) could be made available upon reasonable request.

**Code availability** Not applicable.

## Declarations

**Ethics approval** All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The study was approved by the Institutional Review Board at Fox Chase Cancer Center (Protocol #18–1068).

**Consent to participate** Informed consent was obtained from all study participants.

**Consent for publication** Not applicable.

**Conflict of interest** The authors declare no competing interests.

## References

1. Fiszer C, Dolbeault S, Sultan S, Brédart A (2014) Prevalence, intensity, and predictors of the supportive care needs of women diagnosed with breast cancer: a systematic review. *Psychooncology* 23:361–374. <https://doi.org/10.1002/pon.3432>
2. Dizon DS, Suzin D, McIlvenna S (2014) Sexual health as a survivorship issue for female cancer survivors. *Oncologist* 19:202–210. <https://doi.org/10.1634/theoncologist.2013-0302>
3. Carter J, Lacchetti C, Andersen BL, Barton DL, Bolte S, Damast S, Diefenbach MA, DuHamel K, Florendo J, Ganz PA, Goldfarb S, Hallmeyer S, Kushner DM, Rowland JH (2017) Interventions to address sexual problems in people with cancer: American Society of Clinical Oncology Clinical Practice Guideline Adaptation of Cancer Care Ontario Guideline. *J Clin Oncol* 36:492–511. <https://doi.org/10.1200/jco.2017.75.8995>
4. Goldfarb SB, Abramsohn E, Andersen BL, Baron SR, Carter J, Dickler M, Florendo J, Freeman L, Githens K, Kushner D, Makelarski JA, Yamada D, Lindau ST (2013) A national network to advance the field of cancer and female sexuality. *J Sex Med* 10:319–325. <https://doi.org/10.1111/jsm.12061>
5. Denlinger CS, Sanft T, Baker KS, Broderick G, Demark-Wahnefried W, Friedman DL, Goldman M, Hudson M, Khakpour N, King A, Koura D, Lally RM, Langbaum TS, McDonough AL, Melisko M, Montoya JG, Mooney K, Moslehi JJ, O'Connor T, Overholser L, Paskett ED, Peppercorn J, Pirl W, Rodriguez MA, Ruddy KJ, Silverman P, Smith S, Syrjala KL, Tevaarwerk A, Urba SG, Wakabayashi MT, Zee P, McMillian NR, Freedman-Cass DA (2018) Survivorship, version 2.2018, NCCN Clinical Practice



- Guidelines in Oncology. *J Natl Compr Canc Netw* 16:1216–1247. <https://doi.org/10.6004/jnccn.2018.0078>
6. Flynn KE, Reese JB, Jeffery DD, Abernethy AP, Lin L, Shelby RA, Porter LS, Dombeck CB, Weinfurt KP (2012) Patient experiences with communication about sex during and after treatment for cancer. *Psychooncology* 21:594–601. <https://doi.org/10.1002/pon.1947>
  7. Reese JB, Sorice K, Beach MC, Porter LS, Tulsy JA, Daly MB, Lepore SJ (2017) Patient-provider communication about sexual concerns in cancer: a systematic review. *J Cancer Surviv* 11:175–188. <https://doi.org/10.1007/s11764-016-0577-9>
  8. Reese JB, Beach MC, Smith KC, Bantug ET, Casale KE, Porter LS, Bober SL, Tulsy JA, Daly MB, Lepore SJ (2017) Effective patient-provider communication about sexual concerns in breast cancer: a qualitative study. *Support Care Cancer* 25:3199–3207. <https://doi.org/10.1007/s00520-017-3729-1>
  9. Taylor S, Harley C, Takeuchi E, Brown J, Velikova G (2013) Detecting and discussing sexual problems during chemotherapy for breast cancer. *Breast J* 19:566–567. <https://doi.org/10.1111/tbj.12168>
  10. Reese JB, Sorice K, Lepore SJ, Daly MB, Tulsy JA, Beach MC (2019) Patient-clinician communication about sexual health in breast cancer: a mixed-methods analysis of clinic dialogue. *Patient Educ Couns* 102:436–442. <https://doi.org/10.1016/j.pec.2018.10.003>
  11. Kutikov A, Weinberg DS, Edelman MJ, Horwitz EM, Uzzo RG, Fisher RI (2020) A war on two fronts: cancer care in the time of COVID-19. *Ann Intern Med* 172:756–758. <https://doi.org/10.7326/m20-1133%32219410>
  12. Leung MST, Lin SG, Chow J, Harky A (2020) COVID-19 and oncology: service transformation during pandemic. *Cancer Med* 9:7161–7171. <https://doi.org/10.1002/cam4.3384>
  13. Curigliano G, Banerjee S, Cervantes A, Garassino MC, Garrido P, Girard N, Haanen J, Jordan K, Lordick F, Machiels JP, Michielin O, Peters S, Tabernero J, Douillard JY, Pentheroudakis G (2020) Managing cancer patients during the COVID-19 pandemic: an ESMO multidisciplinary expert consensus. *Ann Oncol* 31:1320–1335. <https://doi.org/10.1016/j.annonc.2020.07.010>
  14. Wolf I, Waissengrin B, Pelles S (2020) Breaking bad news via telemedicine: a new challenge at times of an epidemic. *Oncologist* 25:e879–e880. <https://doi.org/10.1634/theoncologist.2020-0284>
  15. Wittenberg E, Goldsmith JV, Chen C, Prince-Paul M, Johnson RR (2021) Opportunities to improve COVID-19 provider communication resources: a systematic review. *Patient Educ Couns* 104:438–451. <https://doi.org/10.1016/j.pec.2020.12.031>
  16. Reese JB, Zimmaro LA, Bober SL, Sorice K, Handorf E, Wittenberg E, El-Jawahri A, Beach MC, Wolff AC, Daly MB, Izquierdo B, Lepore SJ (2021) Mobile technology-based (mLearning) Intervention to enhance breast cancer clinicians' communication about sexual health: a pilot trial. *J Natl Compr Canc Netw* 19:1133–1140. <https://doi.org/10.6004/jnccn.2021.7032>
  17. Sison CP, Glaz J (1995) Simultaneous confidence intervals and sample size determination for multinomial proportions. *J Am Stat Assoc* 90:366–369. <https://doi.org/10.1080/01621459.1995.10476521>
  18. Braun V, Clarke V (2006) Using thematic analysis in psychology. *Qual Res Psychol* 3:77–101. <https://doi.org/10.1191/1478088706qp0630a>
  19. Millman R, Jacox N, Sears C, Robinson JW, Turner J, Walker LM (2020) Patient interest in the lowdown on down there: attendance at a vulvovaginal and sexual health workshop post-cancer treatment. *Support Care Cancer* 28:3889–3896. <https://doi.org/10.1007/s00520-019-05162-9>
  20. Webber K, Mok K, Bennett B, Lloyd AR, Friedlander M, Juraskova I, Goldstein D, FolCan Study G (2011) If i am in the mood, i enjoy it: an exploration of cancer-related fatigue and sexual functioning in women with breast cancer. *Oncologist* 16:1333–1344. <https://doi.org/10.1634/theoncologist.2011-0100>
  21. Bober SL, Reese JB, Barbera L, Bradford A, Carpenter KM, Goldfarb S, Carter J (2016) How to ask and what to do: a guide for clinical inquiry and intervention regarding female sexual health after cancer. *Curr Opin Support Palliat Care* 10:44–54. <https://doi.org/10.1097/spc.0000000000000186>
  22. Calton BA (2020) Supportive strategies for breaking bad news via telemedicine. *Oncologist* 25:e1816–e1816. <https://doi.org/10.1634/theoncologist.2020-0526>
  23. Wells R, Stockdill ML, Dionne-Odom JN, Ejem D, Burgio KL, Durant RW, Engler S, Azuero A, Pamboukian SV, Tallaj J, Swetz KM, Kvale E, Tucker RO, Bakitas M (2018) Educate, nurture, advise, before life ends comprehensive healthcare for patients and caregivers (ENABLE CHF-PC): study protocol for a randomized controlled trial. *Trials* 19:422. <https://doi.org/10.1186/s13063-018-2770-9>
  24. Chan A, Ashbury F, Fitch MI, Koczwara B, Chan RJ, On behalf of the MSSG (2020) Cancer survivorship care during COVID-19—perspectives and recommendations from the MASCC survivorship study group. *Support Care Cancer* 28:3485–3488. <https://doi.org/10.1007/s00520-020-05544-4>
  25. Runowicz CD, Leach CR, Henry NL, Henry KS, Mackey HT, Cowens-Alvarado RL, Cannady RS, Pratt-Chapman ML, Edge SB, Jacobs LA, Hurria A, Marks LB, LaMonte SJ, Warner E, Lyman GH, Ganz PA (2016) American Cancer Society/American Society of Clinical Oncology Breast Cancer Survivorship Care Guideline. *CA Cancer J Clin* 66:43–73. <https://doi.org/10.3322/caac.21319>
  26. Webb M, Hurley SL, Gentry J, Brown M, Ayoub C (2021) Best practices for using telehealth in hospice and palliative care. *J Hosp Palliat Nurs* 23:277–285. <https://doi.org/10.1097/njh.0000000000000753>
  27. Fraser A, McNeill R, Robinson J (2021) Cancer care in a time of COVID: lung cancer patient's experience of telehealth and connectedness. *Support Care Cancer*. <https://doi.org/10.1007/s00520-021-06528-8>
  28. Chua IS, Zachariah F, Dale W, Feliciano J, Hanson L, Blackhall L, Quest T, Curseen K, Grey C, Rhodes R, Shoemaker L, Silveira M, Fischer S, O'Mahony S, Leventakos K, Trotter C, Sereno I, Kamdar M, Temel J, Greer JA (2019) Early integrated telehealth versus in-person palliative care for patients with advanced lung cancer: a study protocol. *J Palliat Med* 22:7–19. <https://doi.org/10.1089/jpm.2019.0210>
  29. Dionne-Odom JN, Azuero A, Lyons KD, Hull JG, Tosteson T, Li Z, Li Z, Frost J, Dragnev KH, Akyar I, Hegel MT, Bakitas MA (2015) Benefits of early versus delayed palliative care to informal family caregivers of patients with advanced cancer: outcomes from the ENABLE III randomized controlled trial. *J Clin Oncol* 33:1446–1452. <https://doi.org/10.1200/JCO.2014.58.7824>
  30. Li M, Chan CWH, Chow KM, Xiao J, Choi KC (2020) A systematic review and meta-analysis of couple-based intervention on sexuality and the quality of life of cancer patients and their partners. *Support Care Cancer* 28:1607–1630. <https://doi.org/10.1007/s00520-019-05215-z>
  31. Hummel SB, van Lankveld JJ, Oldenburg HS, Hahn DE, Kieffer JM, Gerritsma MA, Kuenen MA, Bijker N, Borgstein PJ, Heuff G, Lopes Cardozo AM, Plaisier PW, Rijna H, van der Meij S, van Dulken EJ, Vrouwenraets BC, Broomans E, Aaronson NK (2017) Efficacy of Internet-based cognitive behavioral therapy in improving sexual functioning of breast cancer survivors: results of a randomized controlled trial. *J Clin Oncol* 35:1329–1340. <https://doi.org/10.1200/jco.2016.69.6021>
  32. Reese JB, Smith KC, Handorf E, Sorice K, Bober SL, Bantug ET, Schwartz SC, Porter LS (2019) A randomized pilot trial of a couple-based telephone intervention addressing sexual concerns for

- breast cancer survivors. *J Psychosoc Oncol* 37:242–263. <https://doi.org/10.1080/07347332.2018.1510869>
33. Parish SJ, Hahn SR, Goldstein SW, Giraldo A, Kingsberg SA, Larkin L, Minkin MJ, Brown V, Christiansen K, Hartzell-Cushman R, Kelly-Jones A, Rullo J, Sadovsky R, Faubion SS (2019) The International Society for the Study of Women's Sexual Health process of care for the identification of sexual concerns and problems in women. *Mayo Clin Proc* 94:842–856. <https://doi.org/10.1016/j.mayocp.2019.01.009>
  34. Reese JB, Lepore SJ, Daly MB, Handorf E, Sorice KA, Porter LS, Tulsy JA, Beach MC (2019) A brief intervention to enhance breast cancer clinicians' communication about sexual health: feasibility, acceptability, and preliminary outcomes. *Psychooncology* 28:872–879. <https://doi.org/10.1002/pon.5036>
  35. Bober SL, Michaud AL, Recklitis CJ (2019) Finding sexual health aids after cancer: are cancer centers supporting survivors' needs? *J Cancer Surviv*. <https://doi.org/10.1007/s11764-019-00744-2>
  36. Dai Y, Cook OY, Yeganeh L, Huang C, Ding J, Johnson CE (2020) Patient-reported barriers and facilitators to seeking and accessing support in gynecologic and breast cancer survivors with sexual problems: a systematic review of qualitative and quantitative studies. *J Sex Med* 17:1326–1358. <https://doi.org/10.1016/j.jsxm.2020.03.004>
  37. Barsky Reese J, Porter LS, Regan KR, Keefe FJ, Azad NS, Diaz LA Jr, Herman JM, Haythornthwaite JA (2014) A randomized pilot trial of a telephone-based couples intervention for physical intimacy and sexual concerns in colorectal cancer. *Psychooncology* 23:1005–1013. <https://doi.org/10.1002/pon.3508>
  38. Jammu AS, Chasen MR, Lofters AK, Bhargava R (2021) Systematic rapid living review of the impact of the COVID-19 pandemic on cancer survivors: update to August 27, 2020. *Support Care Cancer* 29:2841–2850. <https://doi.org/10.1007/s00520-020-05908-w>

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**Relevance to inform research, policies, and/or programs** Findings from this study of 29 breast cancer clinicians suggest that changes in breast cancer clinicians' practice from COVID-19 could be exacerbating existing challenges to discussing sexual health concerns and potentially creating new ones. With some form of telehealth becoming commonplace for many clinical interactions and unaddressed sexual concerns posing a threat to patients' long-term sexual and relationship well-being, efforts should include identifying optimal means for integrating sexual health communication into cancer care, regardless of the mode of care delivery.