Ann Surg Oncol (2019) 26:3380–3388
https://doi.org/10.1245/s10434-019-07541-2

Annals of
SURGICAL ONCOLOGY
OFFICIAL JOURNAL OF THE SOCIETY OF SURGICAL ONCOLOGY

ORIGINAL ARTICLE – BREAST ONCOLOGY

Striving to Do No Harm and Yet Respect Patient Autonomy: Plastic Surgeons' Perspectives of the Consultation for Breast Reconstruction with Women Who Have Early-Stage Breast Cancer

Selina Schmocker, MSc[1], Lesley Gotlib Conn, PhD[2], Erin D. Kennedy, MD, PhD[1,3,4], Toni Zhong, MD, MHS[5,6], and Frances C. Wright, MD, MEd[4,7]

[1]Zane Cohen Centre for Digestive Diseases, Mount Sinai Hospital, Toronto, ON , Canada; [2]Evaluative Clinical Sciences and the Tory Trauma Research Program, Sunnybrook Research Institute, Toronto, ON, Canada; [3]Division of General Surgery, Department of Surgery, Mount Sinai Hospital, Toronto, ON, Canada; [4]Division of General Surgery, Department of Surgery, University of Toronto, Toronto, ON, Canada; [5]Department of Surgery, University Health Network, Toronto General Hospital, Toronto, ON, Canada; [6]Department of Surgical Oncology, University of Toronto, University Health Network, Toronto General Hospital, Toronto, ON, Canada; [7]Division of General Surgery, Sunnybrook Health Sciences Centre, Toronto, ON, Canada

ABSTRACT

Background. Rates of contralateral prophylactic mastectomy (CPM) have doubled over the last decade among women considered low risk for developing contralateral breast cancer. Despite the strong association between CPM and breast reconstruction, little is known about the clinical encounter between patients and plastic surgeons. A qualitative study was performed to understand how plastic surgeons describe their roles in the treatment decision-making process through their consultations with women who have unilateral early-stage breast cancer.

Methods. Semi-structured interviews with Ontario plastic surgeons were conducted. An inductive and interpretive thematic approach was initially used to analyze the data. The four principles of biomedical ethics then served as the conceptual lens to interpret the findings.

Results. The participants in this study were 18 plastic surgeons, and data saturation was reached. Four themes were identified: maintaining non-maleficence, supporting patient autonomy, delivering (un)equal health care, and providing care to enhance well-being. The ongoing push-pull between competing ethical principles was the overarching theme, specifically, striving to balance parallel responsibilities to do no harm while also respecting patients' rights to make their own healthcare decisions.

Conclusions. In this patient-centric climate, it is important to acknowledge that patients may value outcomes such as achieving greater peace of mind above other clinical factors and are willing to incur additional risks to achieve these goals. Shared decision-making will help to reveal the rationale underlying each individual's treatment choice, which in turn will allow physicians to appropriately weigh patient requests with the best available medical evidence when counseling women on decision-making for breast cancer care.

During the last decade, the rates of women with a diagnosis of early-stage breast cancer (ESBC) who undergo contralateral prophylactic mastectomy (CPM) have more than doubled in North America.[1,2] This phenomenon is observed among non-high-risk patients who are unlikely to gain a survival advantage, yet face increased risks of complications, chronic pain, and decisional regret associated with bilateral mastectomy. Thus, the role of CPM for these patients remains controversial.[3–6] A growing body of research seeks to better understand this paradoxical shift toward more aggressive surgical management.[7–12]

First Received: 15 April 2019;
Published Online: 24 July 2019

S. Schmocker, MSc
e-mail: selina.schmocker@sinaihealthsystem.ca

Increased awareness, availability, and advancements in reconstructive procedures are thought to influence a patient's decision to pursue CPM.[2,13] For instance, studies have demonstrated that women with unilateral breast cancer (UBC) were three times more likely to have CPM if they underwent immediate reconstruction,[14] and some patients have regarded CPM as an opportunity to improve the appearance of their breasts through bilateral reconstruction.[15]

Although breast reconstruction is significantly associated with CPM, the plastic surgeons' perspective has not been well described in the literature. A survey of Maryland surgeons showed differences in practice patterns across physician specialties such that plastic surgeons recommended proportionately more CPMs than their general surgery colleagues.[16] It is postulated that the way plastic surgeons view CPM may differ from the way general surgeons view CPM and thus counsel patients in a manner that makes CPM more acceptable to them.[16] Nahabedian[17] found that one aim of plastic surgeons treating patients with UBC is to obtain optimal symmetry, and that a contralateral operation may be regarded as necessary to achieve this goal.

Previously, CPM decision-making was investigated among general surgeons and patients with ESBC.[9,11,12,15] However, this research was unable to provide a complete picture of the decision-making environment because little is known about the opinions and experiences of reconstructive surgeons during their consultations with women considering their treatment options.

Therefore, we performed a qualitative study to explore how plastic surgeons describe their roles in patients' decision-making processes regarding breast reconstruction with a view toward advancing our understanding of the rise in CPM rates.

METHODS

Participants, Sampling, and Recruitment

The study participants included plastic surgeons in active practice who performed breast reconstructive surgery at academic or community hospitals across Ontario, Canada. The potential participants were identified from the Canadian Collaboration of Breast Reconstruction Directory, which is a publically accessible website containing demographic details and contact information for plastic surgeons across the country. Purposive sampling was used to select participants who varied in terms of location, institution type, years in practice, gender, and practice volume.

Eligible Ontario surgeons were mailed a study package, which contained a hand-signed invitation letter, a consent form, and a response form. An email was sent to nonresponders 2 weeks after the initial mail-out, followed by a telephone call to the remaining non-responders 2 weeks after that. Ethics approval for the study was granted through Sunnybrook Health Sciences Centre and University of Toronto Research Ethics Boards.

Data Collection

Data were collected via semi-structured one-on-one telephone interviews. The participants were asked open-ended questions using an interview guide developed for the study (Table 1). The questions were based on content informed by relevant literature combined with expert opinion from breast surgeons. The guide was pilot-tested with four plastic surgeons to refine the questions and prompts. Interviews were conducted by the same investigator (S.S.) to maintain internal consistency. These interviews were audio-recorded and transcribed verbatim. Data collection concluded once saturation was reached, as determined by consensus from three team members (L.G.C., F.C.W., S.S.).

Data Analysis

Data were initially analyzed inductively using a thematic approach.[18] An inductive process involves handling data in a "bottom-up" manner by examining the experiences of participants in their own words and identifying themes that are directly linked to the raw data.[18,19] Coding was performed by two researchers (F.C.W., S.S.) to increase the range of perspectives brought to the data.

Through input from the investigative team, in conjunction with an iterative process of constant comparison between the developing concepts and findings from the literature, it became clear that the data resonated with the four principles of biomedical ethics: non-maleficence, respect for autonomy, justice, and beneficence.[20,21] These principles offer a comprehensive way of thinking about contentious healthcare issues and currently serve as the ethical framework for modern surgical practice in North America.[22] At this stage, the analysis transitioned into more of a deductive process, in which these principles were used as the analytic lens through which the data were viewed.

TABLE 1 Interview guide

Concept	Questions (and prompts)
Surgical trends	*What is your experience with recent trends in reconstruction after a breast cancer diagnosis in terms of patient preferences?*
	How have these changed over the last 5–10 years?
	What types of questions do patients ask today that they didn't ask before?
	Have you noticed a change in the types of reconstruction you have performed over the last 5 years?
	Implant vs tissue reconstruction? Bilateral vs unilateral?
	What do you think are factors influencing these changes?
	Patient awareness? Research?
General approach	*Please describe a typical consultation with a patient who has a diagnosis of early-stage breast cancer*
	Can you describe how reconstructive options are presented to patients?
	Please describe the discussion regarding tissue reconstruction, implant reconstruction, breast symmetry
	Do you discuss oncologic outcomes with your patients?
Decision-making	*How do you and the patient typically arrive at the final treatment decision?*
	Do women generally arrive at their clinic appointment with a treatment decision already made?
	What is your impression of what patients consider important when deciding between treatment options?
	What is your approach to patients who express a preferred treatment?
	Do you have a different approach for replying to this request?
	Can you describe a scenario in which a patient would change his or her treatment decision after a plastic surgery consultation? (e.g. from bilateral to unilateral or unilateral to bilateral mastectomy)
	Do you give a recommendation to patients about their best reconstruction options?
	How do you approach situations in which a patient requests a bilateral procedure but has a unilateral breast cancer?
	What do you discuss with women who explicitly request contralateral prophylactic mastectomy (CPM)?
	Are there ever instances in which a patient requests a surgical option that you wouldn't recommend; if so, can you describe what transpires?
	Are you ever concerned that if you advise against a patient undergoing a particular reconstructive procedure, the patient might seek out another plastic surgeon?
Risk perceptions	*Please describe what information you share with patients about the risks and benefits of the reconstructive options*
	What is your impression of the patients' understanding of the risks?
	How do you assess whether the patient has a good understanding of these factors?
	What is your impression of the role that fear and anxiety play in the decision-making process?
	What particular fears do you think the patients have?
	How do you address these fears?
Patient factors	*Describe the discussion you have with patients about body image and sexual functioning?*
	Who typically initiates this conversation?
	What do you tell patients about the short- and long-term complications of breast reconstruction?
	What are some patient concerns that might make a consultation challenging?
	Describe your strategies/approach for dealing with challenging consultations
Surgeon factors	*Do you have a preferred or optimal approach to breast reconstruction for the average-risk woman with early-stage breast cancer?*
	What is your opinion of contralateral prophylactic mastectomy?
	Describe circumstances in which you would recommend CPM
	Describe a circumstance in which you would not recommend CPM
	From a plastic surgery perspective, is there a scenario in which you would recommend to a woman that she undergo a prophylactic mastectomy?
Surgeon communication	*How do you typically communicate with the general surgeon about a patient?* (e.g. joint clinics, emails, phone calls, referrals)
	How many general surgeons refer to you?
	Do you always agree with their surgical plan?
	Have you ever disagreed with the surgical plan?
	How important is your relationship with the general surgeon to the final decision about reconstruction?
Wrap-up	*Is there anything else you'd like to add that we have not discussed?*

TABLE 2 Summary of demographic details (n = 18)

Category	*N*
Institution type	
Academic	10
Community	8
Sex	
Female	10
Male	8
Average years in practice (range)	13 (3.5–25)
Average no. of patients per month (range)	13 (1–25)
Residency location	
Canada	17
Outside Canada	1
Fellowship location	
Canada	9
Outside Canada	9

TABLE 3 Common findings

1. Improved surgical technique
"With the increased availability of immediate reconstruction and the options there, you're able to give them a shorter procedure and a very reasonable aesthetic result, so I think that there is a little less anxiety about what they're going to look like;… we've contributed to that by improving our technical skills and what we're able to offer" (ID 12)
2: Aesthetics and symmetry
"I think they want something that looks perfectly symmetrical when they're finished, and the common line I get is: "if I had to get breast cancer, I want a set of boobs that are better than the ones I had." So I think there is a lot of aesthetic focus on it" (ID 4)
3: Media influences
"I think some of the publicization of patients having prophylactic mastectomies in the media over the last 5 or 6 years has created a lot of anxiety among women who have a unilateral breast cancer that somehow they're going to be at very high risk of getting it in the opposite breast…The media never really portrayed it very clearly, and so that was one of the problems" (ID 18)
4: Anxiety and fear
"I think they're coming up with the request from just their own anxiety. It makes sense, right? If you're 32 and you had right-sided breast cancer, do you really want to live 50 more years with your left breast? You're probably going to get cancer on that side if you're 32 and you already got it on one side, right? It's reasonable thinking if you don't know" (ID 13)

RESULTS

A total of 43 Ontario plastic surgeons were invited to participate in the study. Of these surgeons, 18 agreed to participate, 6 declined (5 no longer performed breast reconstructions, 1 did not have time), and 19 did not respond. Informed consent was obtained from the 18 surgeons who agreed to participate, and data saturation was achieved.

The interviews were conducted between June and December 2017, with a mean interview time of 33 min (range 21–53 min). Of the 18 surgeons, 10 were women, and 56% (10/18) came from academic hospitals, whereas 44% (8/10) worked in community centers. The participants varied with respect to years in practice and practice volume, as indicated by the number of confirmed breast cancer patients consulted per month (Table 2).

Common Findings

Consistent with existing literature, plastic surgeons perceived that a combination of improved reconstructive techniques, a desire for optimal breast symmetry, media influences, as well as anxiety and fear all play important roles in motivating the pursuit of more aggressive surgical management[9,23–26] (Table 3).

Thematic Findings

1. Maintaining Non-maleficence

Based on current guidelines,[27,28] CPM is not recommended in the setting of ESBC as it does not provide an oncologic benefit yet increases surgical risks and complications. Aligned with the principle of non-maleficence ("do no harm"), the participants expressed trepidation toward non–high-risk patients undergoing CPM and breast reconstruction because this conflicted with their goal to avoid causing undue harm from an additional surgical procedure (Table 4).

Subthemes

Deferral to Oncologists Participants described their role in managing breast cancer patients as being disconnected from oncologic discussions and did not perceive themselves to be directly involved in decision-making for therapeutic cancer care. If patients requested to remove their unaffected breast during the reconstructive consultation, the plastic surgeons would defer to the treating general surgeon, as they are responsible for making the final decision.

Cannot Compromise Cancer Outcomes for Aesthetics The participants explained that they were not supportive of performing procedures (e.g., nipple-sparing reconstructions) if it meant compromising the cancer operation and outcomes. Similarly, they would not recommend CPM just to achieve a superior aesthetic result

TABLE 4 Main themes with representative quotes

Themes	Sub-themes	Representative quotes
Theme 1 Maintaining non-maleficence	Deferral to oncologists	"I want them to discuss that with their oncologic surgeon. I don't help them decide if they need two sides or one side. I don't counsel them with respect to if they're a good candidate or not for a contralateral prophylactic mastectomy" (ID 1)
	Cannot compromise cancer outcomes for aesthetics	"If they have altered their opinion as to whether they're getting a contralateral mastectomy based on a nicer reconstruction, then somebody's given them poor information. They should be basing their decision on a contralateral mastectomy on their cancer risk and cancer treatment…. I'm the number two guy—the surgery for cancer is the number one priority" (ID 14)
	Referrals and second opinions	"What concerns me is giving an operation to somebody that I don't believe is the best option for them because then I'm responsible for potentially causing harm, and that's unacceptable for me. If they don't think that my recommendation is what they want, and they really want to undergo a different type of reconstruction, I will refer them to another plastic surgeon." (ID 3)
	Dissuade patients	"I say to them there's no good reason to do this; there just isn't;… you're just like any woman who's never had breast cancer…. I try and counsel them out of it" (ID 18)
Theme 2 Supporting patient autonomy	Self-advocating	"I know very few reconstructive surgeons who will ultimately say no to a prophylactic if the patient advocates for themselves, even in situations where there really isn't a good medical cancer reason to take off the opposite breast;… if they really want it, they're going to get it" (ID 4)
	Surveillance stress	"If they're really anxious and they're not going to do well with yearly monitoring and all these things, then I will tell the patient that they just need to convince the general surgeon to do the procedure, and I have no problem doing the bilateral reconstruction" (ID 15)
Theme 3 Delivering (un)equal health care	Informational inequities	"I would say almost every patient will bring up the discussion with me about my thoughts on the contralateral side. I don't think the contralateral side is being addressed in depth enough by the general surgeons that are then referring the patients over to me" (ID 13)
	Reconstruction inaccessibility	"The other obvious problem that's an issue is there's a lot of women in the province that aren't being offered reconstruction at the optimum time in the course of their treatment planning, and that's just because of accessibility. I think in the more highly populated areas of southern Ontario it is offered, but once you get outside of southern Ontario, I'm not so sure" (ID 12)
	Limited healthcare resources	"Almost everybody was asking for contralateral prophylactic mastectomy, and it was overwhelming the OR. It was taking up too many OR resources, and the patients that had breast cancer had to wait longer for their breast cancer to be treated because the time to do contralateral prophylactic mastectomy obviously increases OR times, so the number of patients getting their surgery was decreasing and their wait times were increasing" (ID 3)
Theme 4 Providing care to enhance well-being	The evidence could evolve	"If their genetic testing is negative, they often still want to proceed, and to be honest, I think it's reasonable given a younger-aged patient that's already had a breast cancer, even if genetic testing is not yielding anything, cause I'm not sure that we know everything at this point. There have been several prophylactic mastectomies that weren't indicated that we've done here, and we found a cancer on that breast, so it's hard to imagine denying someone that when it's impacting their life on a daily basis. I mean, they've usually been counselled that it's not required and it's still bothering them enough to put themselves through such a big surgery" (ID 6)
	Quality of life	"It's a quality-of-life surgery, and I'm not saving anybody's life by reconstructing their breast, but I just want to make them really, really happy for the rest of their life. They will survive and are young, so I just really want them to get over this and live a happy life after" (ID 16)
	Empathy for patients	"We feel badly for these patients—they have cancer; we want to help them. We want to get them a good result. We want them to get on with their lives and sometimes I think we would often compromise our number one or two choice for a number three choice that may not be the best choice, but we really want to get them where they want to go" (ID 4)

and emphasized that reconstructive decisions should be secondary to oncologic considerations.

Referrals and Second Opinions The plastic surgeons described how they would refer patients for second opinions if they remained insistent upon undergoing a particular reconstruction that they were not a good candidate for or that was recommended against for safety purposes.

Dissuade Patients Some of the participants indicated that they would explicitly advise patients against CPM and breast reconstruction unless there was a specific medical justification.

2. Supporting Patient Autonomy

In the healthcare context, autonomy describes a patient's right to make his or her own medical decisions, including the choice to have CPM. Although the participants sought to maintain non-maleficence, they equally demonstrated respect for a patient's right to self-governance (Table 4).

Subthemes

Self-Advocating Many of the participants acknowledged that they were comfortable with CPM if patients advocated for themselves. Some described initially discouraging patients but would ultimately agree if they remained determined to pursue CPM after they had been properly informed of the risks and benefits.

Surveillance Stress The participants explained that they were supportive of CPM and breast reconstruction as a means to mitigate the cycle of anxiety associated with ongoing breast surveillance and possible further biopsies in the contralateral breast following breast cancer surgery.

3. Delivering (Un)Equal Healthcare

The principle of justice refers to the provision of care that is equitable and fair to all[29] The participants highlighted issues that illustrate the complex dilemma surrounding the notion of justice as it relates to breast reconstruction within Ontario's publicly funded healthcare system (Table 4).

Subthemes

Informational Inequities The participants noted that many patients referred to them would arrive at their appointment seemingly without adequate education concerning the oncologic risks and survivability of their disease, particularly regarding the contralateral side. They explained that this would create friction during their consultation if the patient requested to remove their healthy breast since the plastic surgeon was the first person in their circle of care to recommend against it.

Reconstruction Inaccessibility Aligned with the principle of justice was the perception that patients across Ontario are not afforded equal access to reconstructive procedures. The participants explained that some women are not offered plastic surgery consultations altogether, while others may be restricted to the options at their nearest institution rather than being referred to another center with reconstructive options that may be more in line with their individual preferences.

Limited Healthcare Resources The participants also described the impact that restricted healthcare resources can have on breast cancer decision-making. They indicated that limited operating room availability may shape the choice between immediate implant versus autogenous reconstruction, as the latter operation can take from 8 to 12 h. They also perceived that the growing demand for CPM has translated into increased wait times for breast cancer treatment in Ontario.

4. Providing Care to Enhance Well-Being

Reflective of the principle of beneficence (delivering care to enhance well-being), the participants discussed the challenge of wanting patients to avoid unnecessary risks and the desire to contribute to their emotional welfare by supporting requests for CPM and breast reconstruction (Table 4).

Subthemes

The Evidence Could Evolve Although guidelines recommend against CPM for non–high-risk patients,[26,28] some of the plastic surgeons explained that the evidence may not remain static. They would be remorseful if they counselled a woman out of CPM and she subsequently experienced a malignancy in her contralateral breast or was found to be at higher risk for developing one.

Quality of Life

The participants stated that their role throughout the treatment journey is to help improve patients' self-esteem. Accordingly, they endeavour to perform reconstructions aligned with patient preferences in order to provide optimal quality-of-life outcomes even though the desired procedure may not be recommended from a guideline standpoint.

Empathy for Patients

Many of the participants described empathizing with the anxiety experienced by their patients and indicated that they would want the most aggressive treatment available if faced with a similar diagnosis. Some acknowledged that they felt badly for cancer patients, thus motivating them to provide care that may compromise their initial surgical plan for one that would deliver the greatest peace-of-mind.

4. Overarching Theme: Striving to Do No Harm and Yet Respect Patient Autonomy

The ongoing push-pull between competing ethical principles was the dominant theme; specifically, striving to balance parallel responsibilities to maintain non-maleficence from more extensive surgery while also respecting patient autonomy to undergo bilateral mastectomy. In particular, the participants were challenged by having to reconcile that CPM and breast reconstruction involves removing healthy tissue and introduces surgical complexity that may cause long-term morbidity but may also alleviate anxiety, create better symmetry, and improve self-esteem for select patients (Table 5).

TABLE 5 Overarching theme and representative quotes

Overarching theme: striving to do no harm and yet respect patient autonomy
"I think we often struggle with the whole idea that we're taking off perfectly healthy tissue; we're adding another operation with another level of complexity and another potential risk for a patient, and you can have a really awful outcome on the non-cancer side and so for all of that, I think we struggle" (ID 4)
"I'm of the opinion that resecting a normal breast is not the way to treat the anxiety, and I know it's easier said than done. It's hard to not share their anxiety and share their concerns, but it's also more surgery to take off another breast and have another reconstruction" (ID 2)
"There's been the odd occasion where I might support that decision or advocate for it, but for the most part, I think it's extra risk that isn't worth taking on. I think some of the most complicated reconstructions that I've seen in my practice where things maybe didn't go well and patients needed lots of revisions, or the result was really sub-par, have been contralateral prophylactic mastectomies, and what keeps ringing in my mind is the fact that that side didn't even need to be done and now that's the one that's causing all the problems" (ID 10)
"We say the incidence, the risk is almost negligible—it's the same as women who've never had breast cancer, but they've got young children to look after and they just cannot go forward with that anxiety at a young age with young families regarding the contralateral breast. I've done mastectomies, prophylactic mastectomies, in very young women over the years for that reason. So I guess I've broken my own rules to some extent in some very young women. I understand why—I get it" (ID 18)

DISCUSSION

This research was novel in providing additional modern insight into the CPM phenomenon and in being the first study to qualitatively examine plastic surgeons' perspectives of the clinical encounter with women who have ESBC. Using the conceptual lens of biomedical ethics,[20] four themes were developed: maintaining non-maleficence, supporting patient autonomy, delivering (un)equal healthcare, and providing care to enhance well-being.

Overall, Ontario plastic surgeons felt the push-pull between providing care that patients request, yet also adhering to guideline recommendations, and avoiding introducing additional risks to patients from more extensive surgery. This is supported by previous research showing that nearly 60% of surveyed general surgeons reported discomfort performing CPM for non–high-risk patients.[30] Similarly, Covelli et al.[12] found that CPM was frequently discouraged by general surgeons during their consultations with average-risk patients who have breast cancer due concerns about potential treatment delays and a lack of evidence demonstrating oncologic benefits.

The paradigm of the patient–physician relationship has transformed over the years toward increasing acceptance of the patient's voice in treatment decision-making, which has created unique challenges in terms of providing evidence-based care. This is further complicated in that patients and physicians do not always value similar outcomes. For instance, for many conditions, physicians frequently overemphasize clinical outcomes and underrate the significance patients place on quality of life.[31] Accordingly, it is important to recognize that what provides the greatest benefit from a medical standpoint may not be best from a patient perspective,[32] thus highlighting the need for physicians to elicit preferences and support patient autonomy while making treatment decisions.

Respecting autonomy is crucial, but it is not realized by simply granting every patient request.[32] Despite a desire to be patient-centered, a persistent concern among surgeons is that women with ESBC frequently make fear-based decisions due to overestimations of the likelihood of a recurrence or of developing cancer in the contralateral breast, which motivates them to pursue aggressive treatment.[11,33,34] Therefore, autonomy is best supported via shared decision-making (SDM), in which physicians and patients actively communicate in a two-way exchange of information and preferences, resulting in a treatment that both parties find to be agreeable.[33,35]

In the breast cancer setting, SDM is especially suitable as patients encounter treatments with clinical equipoise and must carefully consider the inherent benefits and risks of each option.[36] Recently, the American Society of Breast Surgeons recommended that physicians facilitate

SDM by incorporating discussions of CPM into their consultations, engaging patients throughout the clinical encounter and ensuring that the final treatment plan aligns with their preferences and goals. [27] Similarly, a Canadian consensus statement concluded that CPM may be performed in patients with ESBC if both patients and surgeons deem it to be suitable after a detailed discussion of the rationale, costs, and benefits.[28]

Study Limitations and Future Directions

Although the participants varied in terms of demographic factors, sampling was limited to cancer centers in Ontario. The opinions expressed in this report may not be reflective of those in other settings, as cultural attitudes toward CPM and breast reconstruction may differ across geographic regions.[37] Furthermore, this study included perspectives of plastic surgeons working within a universal healthcare system, which may present unique challenges compared with healthcare systems in the United States and beyond. Future research would benefit from interviews with a broader range of surgeons from diverse decision-making environments and payer systems.

CONCLUSIONS

In this evolving decision-making climate, plastic surgeons are mindful that patients may value outcomes, such as quality of life, above other clinical factors and are willing to accept additional risks to achieve them. Given that the ongoing controversy surrounding CPM is predominantly about avoiding harm, it is important to maintain a critical perspective on how harm is defined (surgical vs psychological harm) and to consider how some viewpoints may be privileged over others in the decision-making process. As CPM is a permanent choice that may lead to negative emotional and physical sequelae, it is also important that patients acquire a full understanding of the costs and benefits in order to properly evaluate these against their desired outcomes.

In the context of rising CPM rates, plastic surgeons accept and continuously grapple with the ethical responsibility to effectively communicate comprehensive medical information and counsel patients in a manner that allows them to make informed choices, reduces their anxiety, and also respects their preferences and values. Shared decision-making will help to reveal the motivations behind each individual's treatment decisions, thus allowing physicians to appropriately weigh patient requests with current medical evidence.

DISCLOSURE The authors declare that they have no conflict of interest.

REFERENCES

1. Tuttle TM, Habermann EB, Grund EH, Morris TJ, Virnig BA. Increasing use of contralateral prophylactic mastectomy for breast cancer patients: a trend toward more aggressive surgical treatment. *J Clin Oncol.* 2007;25:5203–9.
2. Yao K, Stewart AK, Winchester DJ, Winchester DP. Trends in contralateral prophylactic mastectomy for unilateral cancer: a report from the National Cancer Data Base, 1998–2007. *Ann Surg Oncol.* 2010;17:2554–62.
3. Pesce C, Liederbach E, Wang C, Lapin B, Winchester DJ, Yao K. Contralateral prophylactic mastectomy provides no survival benefit in young women with estrogen receptor-negative breast cancer. *Ann Surg Oncol.* 2014;21:3231–9.
4. Fayanju OM, Stoll CR, Fowler S, Colditz GA, Margenthaler JA. Contralateral prophylactic mastectomy after unilateral breast cancer: a systematic review and meta-analysis. *Ann Surg.* 2014;260:1000–10.
5. Lostumbo L, Carbine NE, Wallace J. Prophylactic mastectomy for the prevention of breast cancer. *Cochrane Database Syst Rev.* 2010(11):CD002748.
6. Barton MB, West CN, Liu IL, et al. Complications following bilateral prophylactic mastectomy. *J Natl Cancer Inst Monogr.* 2005:61–6.
7. Brewster AM, Parker PA. Current knowledge on contralateral prophylactic mastectomy among women with sporadic breast cancer. *Oncologist.* 2011;16:935–41.
8. Tracy MS, Rosenberg SM, Dominici L, Partridge AH. Contralateral prophylactic mastectomy in women with breast cancer: trends, predictors, and areas for future research. *Breast Cancer Res Treat.* 2013;140:447–52.
9. Buchanan PJ, Abdulghani M, Waljee JF, et al. An analysis of the decisions made for contralateral prophylactic mastectomy and breast reconstruction. *Plast Reconstr Surg.* 2016;138:29–40.
10. Agarwal S, Kidwell KM, Kraft CT, et al. Defining the relationship between patient decisions to undergo breast reconstruction and contralateral prophylactic mastectomy. *Plast Reconstr Surg.* 2015;135:661–70.
11. Covelli AM, Baxter NN, Fitch MI, McCready DR, Wright FC. "Taking control of cancer": understanding women's choice for mastectomy. *Ann Surg Oncol.* 2015;22:383–91.
12. Covelli AM, Baxter NN, Fitch MI, Wright FC. Increasing mastectomy rates: the effect of environmental factors on the choice for mastectomy: a comparative analysis between Canada and the United States. *Ann Surg Oncol.* 2014;21:3173–84.
13. King TA, Sakr R, Patil S, et al. Clinical management factors contribute to the decision for contralateral prophylactic mastectomy. *J Clin Oncol.* 2011;29:2158–64.
14. Ashfaq A, McGhan LJ, Pockaj BA, et al. Impact of breast reconstruction on the decision to undergo contralateral prophylactic mastectomy. *Ann Surg Oncol.* 2014;21:2934–40.
15. Greener JR, Bass SB, Lepore SJ. Contralateral prophylactic mastectomy: a qualitative approach to exploring the decision-making process. *J Psychosoc Oncol.* 2018;36:145–58.
16. Houn F, Helzlsouer KJ, Friedman NB, Stefanek ME. The practice of prophylactic mastectomy: a survey of Maryland surgeons. *Am J Public Health.* 1995;85:801–5.
17. Nahabedian MY. Managing the opposite breast: contralateral symmetry procedures. *Cancer J.* 2008;14:258–63.
18. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol.* 2006;3:77–101.
19. Thomas DR. A general inductive approach for analyzing qualitative evaluation data. *Am J Eval.* 2006;27:237–46.
20. Beauchamp TL, Childress JF. *Principles of biomedical ethics,* 7th ed. Oxford University Press, New York. 2007.

21. Teven CM, Grant SB. Plastic surgery's contributions to surgical ethics. *AMA J Ethics.* 2018;20:349–56.
22. Sterodimas A, Radwanski HN, Pitanguy I. Ethical issues in plastic and reconstructive surgery. *Aesthetic Plast Surg.* 2011;35:262–7.
23. Fu Y, Zhuang Z, Dewing M, Apple S, Chang H. Predictors for contralateral prophylactic mastectomy in breast cancer patients. *Int J Clin Exp Pathol.* 2015;8:3748–64.
24. Sabel MS, Dal Cin S. Trends in media reports of celebrities' breast cancer treatment decisions. *Ann Surg Oncol.* 2016;23:2795–801.
25. Brown SL, Whiting D, Fielden HG, et al. Qualitative analysis of how patients decide that they want risk-reducing mastectomy, and the implications for surgeons in responding to emotionally motivated patient requests. *PLoS One.* 2017;12:e0178392.
26. Boughey JC, Attai DJ, Chen SL, et al. Contralateral Prophylactic Mastectomy (CPM) Consensus Statement from the American Society of Breast Surgeons: data on cpm outcomes and risks. *Ann Surg Oncol.* 2016;23:3100–5.
27. Boughey JC, Attai DJ, Chen SL, et al. Contralateral prophylactic mastectomy consensus statement from the American Society of Breast Surgeons: additional considerations and a framework for shared decision making. *Ann Surg Oncol.* 2016;23:3106–11.
28. Wright FC, Look Hong NJ, Quan ML, et al. Indications for contralateral prophylactic mastectomy: a consensus statement using modified Delphi methodology. *Ann Surg.* 2018;267:271–9.
29. Lawrence DJ. The four principles of biomedical ethics: a foundation for current bioethical debate. *J Chiropr Human.* 2007;14:34–40.
30. Bellavance E, Peppercorn J, Kronsberg S, et al. Surgeons' perspectives of contralateral prophylactic mastectomy. *Ann Surg Oncol.* 2016;23:2779–87.
31. Muhlbacher AC, Juhnke C. Patient preferences versus physicians' judgment: does it make a difference in healthcare decision making? *Appl Health Econ Health Policy.* 2013;11:163–80.
32. Angelos P, Bedrosian I, Euhus DM, Herrmann VM, Katz SJ, Pusic A. Contralateral prophylactic mastectomy: challenging considerations for the surgeon. *Ann Surg Oncol.* 2015;22:3208–12.
33. Martinez KA, Kurian AW, Hawley ST, Jagsi R. How can we best respect patient autonomy in breast cancer treatment decisions? *Breast Cancer Manage.* 2015;4:53–64.
34. Yao K, Sisco M, Bedrosian I. Contralateral prophylactic mastectomy: current perspectives. *Int J Women Health.* 2016;8:213–23.
35. Charles C, Gafni A, Whelan T. Shared decision-making in the medical encounter: what does it mean? (or it takes at least two to tango). *Soc Sci Med.* 1997;44:681–92.
36. Bellavance E, Kesmodel S. Decision-making in the surgical treatment of breast cancer: factors influencing women's choices for mastectomy and breast-conserving surgery. *Front Oncol.* 2016;6:74.
37. Guth U, Myrick ME, Viehl CT, Weber WP, Lardi AM, Schmid SM. Increasing rates of contralateral prophylactic mastectomy: a trend made in USA? *Eur J Surg Oncol.* 2012;38:296–301.