

EDITORIAL

Surgical De-escalation in Breast Cancer: Qualitative Research Introduces Hope for Patients and Illuminates a Blind Spot Within Blinded Studies



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For older patients with stage I, hormone-sensitive breast cancer, current data from prospective randomized trials demonstrate that omission of radiation therapy in women treated with breast conserving surgery and hormone therapy results in acceptable local tumor control and no detriment in survival compared with patients who receive radiation.^{1,2} Numerous randomized and single-arm prospective studies are investigating whether omission of radiation therapy can be extended to younger women with hormone-sensitive disease with incorporation of genomic assays to confirm low risk.^{3,4} Although omission-of-radiation studies in patients with breast cancer are plentiful, in this issue of the Red Journal, Guhan et al⁵ report results of a qualitative substudy of a larger prospective trial at the University of Texas MD Anderson Cancer Center offering omission of surgery in patients with all breast cancer subtypes treated with neoadjuvant systemic therapy. The findings are remarkable in that approximately half of the interviewed patients expressed an interest in avoiding or minimizing surgery, and nearly 40% of patients were enthusiastic about nonsurgical options because of previous experiences where they had seen this approach work in other settings. This study also elucidated numerous factors that affected patients' willingness and desire to explore nonsurgical treatment and detailed their rationale for considering the omission of surgery. Taken together, the findings from this qualitative study could help inform the design and

effective implementation of future protocols evaluating de-escalation of surgery in patients with breast cancer.

To our knowledge, the study by Guhan et al (a project stewarded by a third-year medical student in a unique mentoring program at MD Anderson Cancer Center) represents one of only 2 original investigations falling under the rubric of qualitative research studies in the breast cancer section of the Red Journal, with the only other report published over 10 years ago.⁶ Given that qualitative research studies have not commonly appeared in the Red Journal, we felt that a brief overview of qualitative research would be helpful for readers, with Table 1 highlighting some of the key characteristics of qualitative and quantitative research. Qualitative research uses narrative data to understand the meaning of people's experiences and the way they make sense of the world around them.⁷ It is often used in health care to explore the lived experiences of patients, providers, and other health care stakeholders.⁸ Lived experience, a term that has recently gained traction in qualitative work, is a depiction of a person's experiences and decisions, as well as the knowledge gained from such experiences and associated choices.⁹ There are several reasons why qualitative research is important in health care⁸: it can uncover the perspectives of patients and other stakeholders that may not be captured by quantitative research methods; it can help to understand the context in which health care is delivered, including

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Table 1 Comparison of qualitative and quantitative research

	Qualitative research	Quantitative research
Purpose	To understand a phenomenon <ul style="list-style-type: none"> ○ What motivates patients to choose contralateral prophylactic mastectomy? 	To test hypotheses and to establish cause-effect relationships <ul style="list-style-type: none"> ○ Does adjuvant radiation therapy improve local control? ○ Does smoking cause lung cancer?
Study design	<ul style="list-style-type: none"> ○ Phenomenology ○ Grounded theory ○ Qualitative case study 	<ul style="list-style-type: none"> ○ Case control ○ Cohort studies (retrospective or prospective) ○ Randomized clinical trials
Sample	<ul style="list-style-type: none"> ○ Small ○ Purposive 	<ul style="list-style-type: none"> ○ Based on hypothesis testing for primary endpoint ○ Often large
Data gathering	<ul style="list-style-type: none"> ○ Structured/semistructured interviews ○ Focus groups ○ Field observations 	<ul style="list-style-type: none"> ○ Cancer control outcomes ○ Patient-reported toxicities ○ Physician-reported toxicities ○ Quality of life

factors such as the patient's culture, the health care setting, and the relationship between the patient and the provider; and it can be used to develop new theories about health care.

In qualitative research, the research team typically adopts a theoretical framework to guide the study. Two of the most commonly used theoretical frameworks are phenomenology and grounded theory.¹⁰ In phenomenology, the framework focuses on the lived experiences of individuals. Phenomenologists assert that the meaning of an experience is created by the individual, and that this meaning can be understood through careful examination of the individual's perspective.¹⁰ Grounded theorists maintain that theory emerges from the data and that the research team should not impose any preconceived theories on the data.¹⁰ Although there are different methods to carry out qualitative research, these studies are often done by conducting interviews (as in Guhan et al⁵), by using focus groups (as in Wong et al⁶), or by observation, which is defined as watching and recording the behavior of people in their natural setting.⁸ The data collected from qualitative research are most commonly analyzed using a thematic approach.¹⁰ This involves identifying the themes that emerge from the data and then reorganizing the data as a function of those themes. The data analysis may be done manually or with the aid of software packages such as Atlas.ti and NVivo.¹¹ Many of these packages are starting to incorporate artificial intelligence within the software to help improve the efficiency of analysis.¹²

Of note, there are several ethical concerns unique to qualitative research studies, especially given the importance of the relationship between the researcher and the participant.¹³ For example, researchers must be aware of the power dynamic that exists between them and participants and should not exploit the participants or take advantage of their vulnerability. Given that exact quotes are often used, researchers need to introduce safeguards so that findings are disseminated in a way that is respectful to participants and avoids identifying participants in any way. In addition, researchers must ensure that the study is not too stressful or emotionally demanding for participants.

It seems worthwhile for authors and peer reviewers of the Red Journal to familiarize themselves with qualitative methodologies, as it is likely that we will see an increase in these types of articles in the near future. To this end, Hannum et al¹⁴ published criteria for the evaluation of qualitative research in oncology in the *Journal of Oncology Practice* in 2019. This review serves as a comprehensive reference for those interested in a deeper dive into qualitative research.

Treatment decision making for patients with early-stage breast cancer is already complex, but it will only become more complicated in the near future. Radiation therapy has been the focus of many de-escalation studies looking at omission of therapy.^{1,2,15} And, despite the fact that adjuvant radiation therapy decreases the risk of ipsilateral in-breast recurrences by a relative factor of 80% to 90% in these studies, omission of this extremely effective local therapy continues to be the focus of much attention. In 2023, long-term results of the PRIME-II study and initial results of the LUMINA study were published in the *New England Journal of Medicine*.^{2,3} However, as with many treatments, there have been substantial improvements in radiation over time that were not as prevalent when CALGB 9343, PRIME-II, and even the LUMINA study were accruing patients, including accelerated partial breast irradiation (APBI),¹⁶ hypofractionated whole breast irradiation (WBI), and even ultrahypofractionated WBI.¹⁷ Up until this point, the patients who are most appropriate for consideration of omission of radiation therapy would be fitting candidates for 5-fraction courses of APBI or WBI. Therefore, breast radiation therapy no longer offers the same burden of care, side effect profile, or financial toxicity for these patients as when many of the published and ongoing radiation omission studies were conceived. Ongoing radiation de-escalation studies such as NRG BR007⁴ and NRG BR008 (NCT05705401) allow physicians to offer 5-fraction courses of radiation therapy in their respective control arms, so it will be interesting to learn what proportion of patients undergo these 5-fraction APBI/WBI regimens and whether quality-of-life metrics are different between those who undergo 5 fractions of APBI/WBI

versus no radiation therapy. The current publication by Guhan et al is refreshing in that surgery is the focus of omission and not only in hormone receptor (HR)+/human epidermal growth factor receptor (HER)2– breast cancer but also for patients with high-risk breast cancers receiving neoadjuvant systemic therapy. We envision that patients, particularly those with stage I, HR+/HER2– disease are going to be faced with many de-escalation decisions involving surgery (lumpectomy vs omission, sentinel node biopsy vs omission), radiation therapy (APBI or WBI vs none), and even hormone therapy (yes vs no).

With so many decisions available to patients on the basis of traditional, well-designed, prospective, phase 3 randomized quantitative clinical trials, we foresee an increasing need for qualitative research studies to help physicians, patients, and patients' caregivers to navigate the complex process toward the best choice for that individual patient. For example, we learned from Guhan et al that participants who were resistant to undergoing surgery mentioned that they felt that their breasts were not central to their identity, that they did not feel rushed to immediately excise their tumor, or that they did not want to overtreat their cancer. External conversations with family and friends who had negative experiences with breast surgery or reconstruction were also an important factor for patients who were more interested or motivated to avoid breast surgery. This type of information is valuable because designing questionnaires that specifically address these themes may help enrich and hasten accrual for future trials of surgical omission or omission of other therapies.

Perhaps in a manner that is reminiscent of the contrast between “real-world data” and the evidence collected from clinical trials, we need not conclude that qualitative and quantitative research constitute polar opposites. Rather, each contributes to our understanding of the patient experience. Scientists now have the opportunity to learn from these complementary approaches.

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