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Breast Cancer Patients' Experience of External-Beam Radiotherapy

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Abstract

Radiotherapy is a critical component of treatment for the majority of women with breast cancer, particularly those who receive breast conserving surgery. Although medically beneficial, radiotherapy can take a physical and psychological toll on patients. However, little is known about the specific thoughts and feelings experienced by women undergoing breast cancer radiotherapy. Therefore, the study aim was to use qualitative research methods to develop an understanding of these thoughts and feelings based on 180 diary entries, completed during radiotherapy by 15 women with Stage 0-III breast cancer. Thematic analysis identified four primary participant concerns: (a) a preoccupation with time; (b) fantasies (both optimistic and pessimistic) about life following radiotherapy; (c) the toll their side-effect experience takes on their self-esteem; and (d) feeling mystified by radiotherapy. These themes are consistent with previous literature on illness and identity. These findings have implications for the treatment and care of women undergoing breast cancer radiotherapy.

Keywords

breast cancer; cancer; psychosocial aspects; distress; qualitative methods; general; women's health; women's issues

One of the primary treatment modalities prescribed for women diagnosed with breast cancer is radiotherapy. Radiotherapy has been demonstrated to lengthen survival time, to improve localized tumor control, and to reduce mortality (Vinh-Hung & Verschraegen, 2004). Although these are all invaluable benefits, such medical gains are not without physical and psychological costs. From the physical perspective, breast cancer radiotherapy is most often related to fatigue (Hofman, Ryan, Figueroa-Moseley, Jean-Pierre, & Morrow, 2007; Jereczek-Fossa, Marsiglia, & Orecchia, 2002) and skin toxicity (Porock & Kristjanson, 1999; Hymes, Strom, & Fife, 2006). Indeed, over the course of several weeks of daily radiotherapy treatments, up to 90% of patients report fatigue (with 30% describing it as ranging from severe to intolerable), and 74%-100% of patients experience skin irritation (Berthelet et al., 2004; Hofman et al., 2007; Knobf & Sun, 2005; Wengstrom, Haggmark, Strander, & Forsberg, 2000) which can range from painful redness (erythema), to open wounds (desquamation), ulceration, and necrosis (Cox, Stetz, & Pajak, 1995; Harper,

Franklin, Jenrette, & Aguero, 2004). Both fatigue and skin irritation can take a substantial toll on women's quality of life (Berthelet et al., 2004; Bolderston, Lloyd, Wong, Holden, & Robb-Blenderman, 2006; Bower et al., 2000; Hofman et al., 2007; Porock & Kristjanson, 1999). From the psychological perspective, breast cancer radiotherapy has been related to emotional distress (Hickok, Morrow, Roscoe, Mustian, & Okunieff, 2005; Knobf & Sun, 2005). More specifically, research has shown that: 31% of patients experienced moderate to severe levels of negative affect (Sollner, Maislinger, Konig, Devries, & Lukas, 2004); that 40% - 48.7% of patients experienced anxiety about radiotherapy, 54% - 69.1% experienced anxiety about potential radiotherapy side effects (Mose et al., 2001; Rahn et al., 1998); and 40.5% experienced worry about negative radiotherapy effects on the appearance of their breast (Mose et al., 2001).

Although these quantitative descriptions of the radiotherapy experience are critical in providing a broad conception of the radiotherapy experience, they provide little depth or detail concerning patients' thoughts, feelings, and evaluations of the treatment and side-effect experience. A greater understanding of patients' experiences during this common treatment could provide an important guide for healthcare and support providers (e.g., psychotherapists, radiation oncologists, radiation oncology therapists and nurses, friends and family) interested in reducing the psychological burden associated with radiotherapy. Therefore, the aim of the present study was to understand the specific cognitions and emotions underlying the radiotherapy experience from the patient's perspective.

Method

Participants and Settings

The data analyzed in this study were collected during the pilot phase (n=15) of a larger project investigating a psychotherapeutic intervention for women with breast cancer who are undergoing external beam radiotherapy (for further description of the project, see Montgomery et al., in press). The goal of the pilot phase was to provide our research team with an understanding of the difficulties women face as they undergo breast cancer radiotherapy, and in doing so, to inform the development of a psychotherapeutic intervention for this population. Institutional Review Board approval was obtained for the study and written informed consent was obtained from all participants.

Participants were recruited consecutively from the radiation oncology practice of a large urban teaching hospital. Consistent with standard clinical practice at our institution, all patients were informed before treatment of possible radiotherapy-related side effects. Radiation was delivered via Varian linear accelerators 5 days per week (Monday-Friday) until the total prescribed dose was received, typically 6-7 weeks.

Eligibility criteria included being: scheduled for breast cancer radiotherapy; able to speak and read English; over age 18; and having Stage 0, I, II or III breast cancer. Exclusion criteria were uncontrolled mental illness or medical illness (as determined by medical chart review) and metastatic disease.

Data Collection

Participants were identified with the help of a radiation oncologist. She told women that she was working with a group on a research study, with the aim of learning more about the experiences of women undergoing breast cancer radiotherapy. Women who expressed an interest were contacted by study personnel who described the study in detail and obtained written informed consent. After providing written informed consent for the study, participants were asked to come to the radiation oncology clinic 30 minutes prior to their first scheduled radiotherapy appointment. During those 30 minutes, participants met

individually with the first author (J.S.), a licensed clinical psychologist, in a private medical examination room in the clinic. During this meeting, she asked the participants to keep a diary and make entries twice a week throughout the course of their radiotherapy treatment describing their current thoughts and feelings. The participants were instructed to write about: (a) events related to their radiotherapy that were upsetting to them (e.g., I had to miss an important meeting at work because of my treatment); (b) any negative or unhelpful beliefs they had in response to those events (e.g., I am a failure at my job); and (c) emotional, behavioral, and physical consequences of those beliefs (e.g., I felt guilty and embarrassed, I was rude to the radiation oncology staff, I developed a headache). This choice of material was based on Rational-Emotive Behavior Therapy (Walen, DiGiuseppe, & Dryden, 1992; Ellis, 1994), a type of cognitive-behavioral psychotherapy.

The first author met with each patient twice per week throughout the course of radiotherapy to review their diary entries. Radiotherapy lasted 6 weeks for all participants. Therefore, the first author received 12 diary entries from each participant, and in turn met with them 12 times. During these meetings, the content of all diary entries was discussed, empathic attention was provided and participant questions were answered (Lang, Laser, Lutgendorf, Logan, & Spiegel, 1996; Montgomery et al., 2007). According to study protocol, all participants were offered referrals for psychotherapy if they desired. Participants' diary entries were the material formally analyzed for the present article. The study design yielded 180 diary entries which were used in the thematic analysis described below.

Demographic information was also collected from participants. Relevant medical history variables, abstracted from participants' medical charts, included their cancer stage, chemotherapy history, and Karnofsky Performance Status (KPS) rating on beginning radiotherapy (Karnofsky & Burchenal, 1949). The KPS score is a measure of cancer patients' ability to function and perform everyday tasks, and ranges from 0% = death to 100% = normal functioning.

Data Analysis

The diary entries were subjected to thematic analysis, a form of qualitative analysis, as described by Braun and Clarke (2006). The goal of our analysis was to provide an illustrative thematic description of the entire set of diary entries, to give the reader a sense of the key themes contained therein. We took an inductive approach to the analysis, in that we coded the diary entries without a pre-existing coding frame. In other words, our analysis was driven by the material participants produced.

Our analysis was sequential (Braun & Clarke, 2006). In the first phase, the first author, who had engaged participants in the diary task, read through the entire data set (i.e., set of diary entries) once, made preliminary notes on patterns observed, and then transcribed participants' diary entries verbatim onto a computer (Microsoft Word). We stored all computer entries on a secure, password protected, institutional network drive, accessible only to members of our research team. In the second phase, the first author generated a set of initial codes and examined these for their relevance to each data extract (i.e., each diary entry). The third phase entailed an elaboration of the key themes or patterned meanings expressed by the women that provided a convincing response to our research questions, within and across all records. We found seven themes. The fourth phase involved reviewing the themes and refining them to ensure that the data within themes was internally consistent, as well as clearly distinguishable from other themes. After review, we condensed these seven themes to four themes, with attendant sub-themes. These four themes were then defined and named (see Results section below). Throughout the data analysis process, the authors met regularly to discuss the diary entries, as well as to review the researcher-patient

meetings during which these diary entries were discussed. The final set of themes, as well as their names, emerged from these meetings.

We stopped data collection and analysis at 15 participants for two primary reasons. First, the demographics of this group of 15 were representative of the larger population of women with breast cancer (Ries et al., 2008). Second, after reading and analyzing the 180 diary entries generated by our sample, we felt that we recognized women's major concerns, that significantly new concerns were no longer emerging, and thus we felt we were ready to proceed beyond the pilot phase of the work.

Results

Demographics

The 15 participants were diverse in terms of demographic and medical characteristics. Participants ranged in age from 35 to 73 years ($M = 54$, $SD = 9.7$). Twelve participants described themselves as White, and 3 described themselves as Black. Five participants described themselves as college graduates, 7 reported at least some postgraduate education, 2 participants reported completing some college, and 1 had a high school education or equivalent. Over half of the sample was currently married ($N=9$), whereas 2 reported having never been married, 3 reported being divorced, and 1 reported being widowed. At the commencement of the study, 3 participants were diagnosed with Stage 0 breast cancer, 7 participants were diagnosed with Stage I, two were diagnosed with Stage IIA, 1 was diagnosed with Stage IIB, 1 was diagnosed with Stage IIIA, and 1 was diagnosed with Stage IIIC. Twelve participants had received a lumpectomy prior to radiotherapy and 3 had received a mastectomy. Six of the participants had received chemotherapy prior to radiotherapy, and 9 had no chemotherapy prior to radiotherapy. The sample was overall in good health at the start of radiotherapy, as suggested by the fact that 11 participants had a Karnofsky Performance Status (KPS) score of 100, 1 had a KPS score between 90 and 100, 3 had a KPS score of 90, and 1 had a KPS score of 80. All participants received external beam radiotherapy.

Findings

Although our overall intent was to focus on describing participants' cognitions and feelings in response to breast cancer radiotherapy, these occur within the context of each patient's side-effect experience and social environment. Consistent with the literature cited above, fatigue and skin toxicity were the most commonly reported radiotherapy-related side-effects. Fatigue was reported by participants as being "totally exhausted to the point that I could hardly move," "total shutdown," "worn out," and commonly as "extremely fatigued." Skin toxicity was described as "badly 'sunburn' skin," "Skin has broken down – big open wound, very painful," "skin burning, breast swelling, sensation of internal swelling in breast," and "ferocious itching."

These side effects were experienced in addition to a perceived lack of social support. Participants reported feeling neglected and misunderstood by their families ("They don't care because they are too busy with their happy lives," "No one else in my family really understands my feelings"); work colleagues ("My co-worker doesn't seem to understand my need to rush out of work for my treatment"); bosses ("My boss was not understanding about my absence from work for radiation"); and friends ("reaction (too much . . . not enough)"). Perhaps the most striking statement was made by a woman who reported feeling alone dealing with the treatment and everyday life stresses. She said "I should have stayed in my abusive marriage because I would not be alone."

The four primary themes which are described below should be understood against the background of increased side effect burden and decreased perceived social support.

Themes

Timing is everything: An awareness of time is omnipresent in participants' thoughts. Most directly related to treatment is the sense participants have that there is a correct time for symptoms to enter and exit their lives, and that if the timing of either is perceived as off, it is taken to be a signal that something is wrong. The concern about symptom entrances is captured by patient comments such as: "experiencing symptoms of radiation on day 2, before I expected them: skin burning, breast swelling, sensation of internal burning in breast . . . I'm not getting the correct treatment. I'm being too trusting. This is awful," and "Shouldn't feel so fatigued in early stage of radiotherapy." The concern about symptom exits is captured by patient comments such as, "This is taking too long to recover . . . I'm not going to do any more [radiation]," and "I thought that because I had a weekend break I should have had more energy."

A special case of concern about symptom exits is related to participant concerns about the possibility of a necessary treatment interruption (or break) in their radiation treatment, which would lengthen the overall treatment time. Participants mentioned, "If [my] skin breaks [and I] must take time off, that would be awful," and "there's a problem that could interrupt radiation, and that would be awful."

Concerns about time also emerge in participants' sense of impending mortality related to aging:

"Aging came up at dinner party last night. I heard stories in the radiation waiting room. I'm thinking about death. I feel very sad . . . We all have to die. I may die sooner than I thought," and "Aging brings illness – for which there is no cure."

Happily ever after or sickly ever after?: Participants' beliefs about life after radiation treatment fall into two categories: 1) once treatment ends their lives will be problem-free, or 2) once treatment ends they will never be healthy again. The former belief is captured by statements such as: "I'll feel better once the situation changes," "Hopefully in the Fall I may be able to fulfill this promise," and "I will have more time for exercise." These statements take on the tone of New Year's resolutions; hopes to begin anew.

The fear of unending sickness is expressed by statements such as "It's awful. Will this never end? Why me?" This fear tends to be related to two factors. First, the fear is related to symptoms: "I am still having trouble getting around & now my breast is sore & red and I feel like it will always be that way and that would be awful or unbearable." Second, the fear is related to the possible development of additional cancers and/or recurrences of this cancer: "Fear of ovarian cancer. The thought constantly surfaces though I cancel the thought – repeatedly. There is a saying 'the thing you fear the most shall come upon you,'" "I may have to deal with cancer for the rest of my life," and "I am wondering what is my next adventure in going through breast cancer."

An important trigger of these future cancer-related thoughts seems to be medical diagnostic tests, such as MRIs, CT scans, and blood work: "I am terrified about the brain scan and the results" and "In addition to muscle weakness & fatigue, blood test showed some chemicals raised re: liver . . . this will continue, every test will show a new problem and I can't stand it."

My own worst critic: The stresses of radiation, both practical and physical, appear to take a significant toll on participants' self-esteem across numerous domains. These women felt inferior as patients. For example, with regard to their experience of fatigue, they reported thoughts including: "I should be stronger – I want to be the exception," "I thought I would or should be able to perform all of my usual activities during radiation treatments," "Feel guilty about not doing any vigorous exercise," "Felt it was my fault – I did too much over the weekend," "I'm lazy," "I'm giving in to imagined or real side effects of radiation," and "I am unproductive." It was remarkable how commonly and consistently fatigue, and their reaction to it, was perceived by participants as a personal, almost a moral, weakness. On a related note, participants had difficulty tolerating emotional upset, and commented, "I should be finished with crying," and "Kind of feel like I'm being a self-indulgent baby."

Among the women who worked, many felt unsuccessful in the workplace because of their radiotherapy treatment demands. They questioned their competence at work, reporting: "I'm not a good worker right now," "I should be able to manage this, and balance work and life," and "I'm irresponsible."

A tendency was also apparent for women to feel inferior or to question their worth in stereotypically feminine domains. For example, they began to question their success as mothers: "I really haven't done a great job for her [my daughter]," and "I didn't train them right, I was a bad mother." They questioned their physical attractiveness: "I felt uncomfortable having my breast exposed to another male technician. Feelings of not being attractive as a woman," "Fear of body odor. Remain indoors if I can't shower for weekend," "Radiation will scar my skin outside and inside . . . It's going to look terrible!", "I look horrible," and "Deformed, black, so different from the other one [breast]. Feels hard." One participant said that she felt "humiliated" sitting in her gown, and that she felt "low class" and "unacceptable," when comparing herself to the female partner of a patient in the radiation clinic waiting area, who the participant perceived as well-dressed, well made-up, and polished.

Radiation works in mysterious ways: What is unique to radiotherapy, as opposed to other forms of breast cancer treatment (e.g., surgery, chemotherapy), is that it is imperceptible. It is invisible, and although it has side effects, the radiation itself is neither seen nor felt. Like the iocane powder described in the film *The Princess Bride*, participants perceive that radiotherapy is "odorless, tasteless . . . and is among the more deadly poisons known to man" (Lear et al., 1987). Perhaps because of this mysteriousness, participants reported worries including: "I'm not getting the correct treatment. I'm being too trusting," "The radiation is damaging me," "The radiation is destroying other parts of my body," whether "Cells there may regenerate," and "How can radiation on one tiny part of body . . . have this overall effect?" One woman had a more positive take on skin irritation resulting from radiation saying "I know they're aiming right. It's a check." Yet that comment highlights the fact that without such a "check," she would have felt she had no idea if radiation was being performed correctly.

Discussion

The present qualitative research revealed that the experience of undergoing external beam radiotherapy for breast cancer affects not only patients' bodies, but their thoughts and feelings as well. Consistent with the literature, women reported physical side effects including fatigue and skin toxicity (Hofman et al., 2007; Jereczek-Fossa et al., 2002; Porock & Kristjanson, 1999). Yet our findings are novel in what they reveal about the psychological effects of such breast cancer radiotherapy-related symptoms.

First, they highlight the fact that from the patient's perspective, a symptom (e.g., fatigue, skin toxicity) is rarely "just" a symptom, "just" a physical experience. Rather, like all of our experiences, it is evaluated. It may be evaluated as a sign of a problem with treatment, as an omen of symptoms to come, or as noted above, too often as an indicator of personal unworthiness. Radiotherapy patients' evaluations of symptom experience should be considered by those involved in their care, including health care professionals, psychotherapists, and less formal caregivers/support providers. For example, to a treating physician, fatigue may be viewed as expected and normal. To a patient however, fatigue may be perceived as a sign of personal weakness. Similarly, to a patient's spouse, skin toxicity may be seen as no more than mild sunburn. To a woman undergoing radiotherapy however, skin toxicity may be perceived as making her appear hideous.

Second, the findings indicate that individuals undergoing radiotherapy may experience a serious lack of social support from families, co-workers, bosses, and friends. This finding is consistent with literature which has found that 40% of breast cancer patients reported being rejected or avoided by a member of their social support network, and 37% reported feeling disappointed by a lack of communication about cancer-specific issues with husbands, relatives or friends (Lichtman, Taylor, & Wood, 1987). In a more recent study of breast cancer survivors, women reported feeling disparaged or invalidated, feeling that others withdrew from them, feeling that others tried to "fix" their feelings, feeling that others acted in a falsely positive manner to them, or feeling that others appeared uncomfortable with them (Cordova, Cunningham, Carlson, & Andrykowski, 2001). This lack of perceived social support can have profound implications for the quality of life of women coping with breast cancer, as emotional support has been positively related to: good adjustment among individuals with cancer (Helgeson & Cohen, 1996), increased positive affect, decreased negative affect, and improved outlook on life (Bloom & Spiegel, 1984; Funch & Mettlin, 1982; Pistrang & Barker, 1995).

Third, the findings suggest that patients have an internal timeline for when they expect symptoms to enter and exit their lives. When there is a perceived deviation from this timeline (e.g., a symptom experience begins earlier than expected), or when there is no "exit" in sight, distress often results. Frank (2007) described the "fear of how bad it might actually get or the fear of where the bottom is" as a "meta-fear" (p.388). This meta-fear is apparent in the concerns expressed by patients about what the future will hold, and is consistent with other literature in the area which has found a tension between hope for a return to a "normal" life and fear of unending illness. For example, Davis (2008) conducted a narrative analysis of breast cancer publications and found two contradictory themes – "One is that breast cancer is a temporary inconvenience. The other is that breast cancer is an ongoing, lifelong process." (p. 72). Similarly, Godfrey and Townsend (2008) studied illness in older adults, and found patients had "varying degrees of optimism" regarding whether their lives would return to how they were before the illness. This set of findings suggests that care providers should remain vigilant for the anxiety that may lurk behind seemingly neutral patient comments, including "I didn't think this would start so soon," and address them via reassurance and information. In particular, education about the fact that there is variability in the timing and intensity of patients' symptom experiences, and that there is no single "correct" way to respond to radiotherapy treatment, could go a long way toward reducing patient distress.

Fourth, the frequency and intensity of the self-criticism (or in the language of Rational Emotive Behavior Therapy, "self-downing") expressed by the radiotherapy participants was striking. Across the board, these women exhibited what Charmaz (1995) referred to as "the guilt and shame followed by self-abasement that ill people with failing bodies experience" (p. 663). Participants had tremendous difficulty giving themselves permission to "take it

easy” during treatment, to forgive themselves for being affected by radiation treatment (e.g., being fatigued, having skin toxicity), or to shift their identity goals to accommodate the treatment experience (Charmaz, 1995), even for the 6-7 weeks of radiotherapy. They were often merciless toward themselves, and their self-criticism strayed beyond radiation to pervade their self-identity as a conscientious worker, a good parent, a good patient, and an attractive woman. As Frank (1991) noted, “it is hard for ill persons to resist accepting ‘productivity’ as the measure of our worth” (p. 103). A recent study of patients with chronic illnesses found that the ability to work is often part of patients’ value systems; one participant stated, “I would have felt like a worm if I had indulged myself not to go to work” (Aujoulat, Luminet, & Deccache, 2007, p. 780). This same study found that the inability to fulfill a family role as desired was an additional source of emotional distress, consistent with our results described above. Care providers could use this understanding of patients’ tendency to self-criticize to inform their choice of psychological intervention strategies.

Fifth, the findings suggest that participants were mystified by radiotherapy. Of concern is the fact that only one participant in 15 specifically mentioned radiotherapy as helpful or “working.” Although the diaries prompted reporting of problems, there was little balance between reported recognition of radiotherapy side effects and radiotherapy benefits. This suggests that perhaps more time spent on the side effects of radiotherapy as indicative of healing or fighting cancer would help patients reframe their symptom experience into a more positive, or at least into a more balanced, one.

Although it is informative to consider each theme individually, when viewed together two overarching patterns emerge. The first pattern consists of an externalized struggle between the patient and radiotherapy, much like the “war on cancer,” which has “battles, victories and losses, enemies, heroes, and victims” (Davis, 2008, p. 68). In this case, radiotherapy is often perceived by patients as an aggressor who takes over their schedules, deforms their bodies, and damages their lives and physical well-being. This perception is in line with Frank’s (1991) writing that as a consequence of critical illness, “Your relationships, your work, your sense of who you are and who you might become, your sense of what life is and ought to be – these all change, and the change is terrifying” (p. 6). In contrast, patients often perceive themselves as unworthy opponents; weak, unattractive, unable to defend themselves against radiotherapy effects. This pattern may reflect cultural views and attitudes toward radiation, presented as far back as the horror movies of the 1950s, where fears regarding radiation were embodied in monsters such as Godzilla (Levine et al., 1956) and the giant ants in *Them!* (Weisbart, Hughes, Sherdeman, Yates, & Douglas, 1954) (Anisfield, 1995; Tsutsui, 2007). Participant responses suggest that an intervention which aims to change the perception of radiation as an aggressor could be beneficial to patients. One might accomplish this aim by: (a) working to reduce the negative effects of radiotherapy (e.g., distress and side effects) via interventions such as cognitive-behavioral therapy, hypnosis, or improved creams for managing skin toxicity; or (b) working with patients to reshape their perception of radiotherapy as a hostile “monster,” perhaps by simultaneously validating patients’ difficulties and reframing radiotherapy by emphasizing its curative properties and intent.

The second pattern to emerge is that of a more internalized struggle between the self, which believes it “should” be able to maintain the formerly led lifestyle, and the body, which may be too exhausted during treatment to accommodate that demand (Charmaz, 1995). This pattern suggests that an effective intervention might involve increasing patient education about radiotherapy to ensure that their treatment expectations are accurate, which might in turn reduce their levels of self-criticism related to their symptom experience. Such an intervention might help people move from feeling “overtaken” by the radiotherapy process,

and instead choose to “surrender” themselves to the need to respect bodily limitations imposed by treatment (Charmaz, 1995, p. 672).

Like any research, our study had its limitations. With regard to generalizability, it should be noted that male breast cancer patients, female breast cancer patients with Stage IV cancer, patients undergoing radiotherapy with palliative intent, and patients receiving any type of radiotherapy to the breast other than external beam (e.g., MammoSite) (Keisch et al., 2003) were not included in the study. Therefore, generalizability to such groups remains to be determined. However, it is interesting to note how consistent our results are with Crossley’s (2003) analysis of the diaries of a man with oral cancer. Like the breast participants described above, this man counted the days until his radiotherapy ended, and realized he would struggle with fears of cancer and its recurrence well into the future. Crossley labeled this last stage as “endings or the end?” (p. 442). It should be noted that despite different genders of the subjects, different cancers, and vastly different side effects in our article and Crossley’s, the experience of radiotherapy was quite similar. This supports the likely generalizability of the present findings to additional radiotherapy populations. A second limitation of our study is that participants were instructed to write in their diaries about upsetting events, thoughts, and feelings related to their radiotherapy experience. This approach may have resulted in bias toward the negative aspects of radiotherapy. However, we felt that obtaining information on the suffering of women undergoing breast cancer radiotherapy was vital, as it could inform future clinical interventions to improve quality of life in this population.

It is our hope that these results will inform the treatment and care of breast cancer radiotherapy patients, and will help care providers to be more empathic in their interactions with patients. Perhaps more importantly, it is hoped that these findings will help women undergoing radiotherapy to recognize their tendency to self-criticize, and in doing so, to allow them to be more accepting of themselves, and more forgiving of their humanity.

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