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Lifestyle change experiences among breast cancer survivors participating in a pilot intervention: A narrative thematic analysis

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ABSTRACT

Purpose: Healthy lifestyle adoption among breast cancer (BC) survivors remains a poorly understood process. This study aimed to qualitatively examine the unique change trajectories of BC survivors who partook in a pilot version of the Healthy Lifestyle Modification After Breast Cancer (HLM-ABC) intervention.

Methods: A sample of four BC survivors were studied intensively through longitudinal interviews conducted at four time points with each participant: (1) pre-treatment, (2) mid-way treatment, (3) post-treatment, and (4) three-months following their participation in the HLM-ABC. A multiple-case study, narrative analysis was applied to 15 interviews, resulting in individual narratives as well as shared 'thematic intersections' elucidating cross-participant experiences.

Results: The findings showed that participants offered unique styles of authorship, characterized by diverse struggles, victories, and motivational insights, organized around the following intersecting themes: (1)Weight management prescription as a motivator or deterrent, (2) 'Time for me' is time away from my family, and (3) Patterns of opposition to lifestyle change. These women's rich, storied accounts suggest experiences of personal growth and imply that existential concerns can be both motivating and deterring in relation to health behavior change.

Conclusion: This research provides a comprehensive and nuanced grasp of healthy lifestyle modification in the survivorship stage of BC.

1. Introduction

Breast cancer (BC) survival rates are steadily rising throughout Western Europe, North America, and Eastern Asia (World Cancer Research Fund International, 2018). In the United States alone, there are approximately 3.5 million women with a history of invasive BC (DeSantis et al., 2017). These survivors often experience a host of challenges as a result of excess adiposity (i.e., fat cells). Fifty to 96% of women experience weight gain during and after treatment (Vance et al., 2011) especially those patients who receive adjuvant chemotherapy and are under the age of 60 (Uhley and Jen, 2007). Further compounding this issue is the number of women who are overweight or obese *prior* to diagnosis, estimated at 70% (Rock et al., 2013). This evidence is concerning given that weight gain is a negative prognostic factor for BC recurrence. Specifically, excess adiposity is associated with a heightened risk of cancer recurrence, increased mortality, depression, anxiety, fears of recurrence, body image difficulties, as well as poor quality of life (QoL) (Befort et al., 2012; Kirshbaum, 2006; Pedersen et al., 2017; Protani et al., 2010; Rock et al., 2015; Young et al., 2014). Moreover, the risk of cancer recurrence among BC survivors with obesity is more than double that of their non-obese counterparts (Kamineni et al., 2013).

Given that studies have shown elevated mortality rates for BC survivors with higher body mass indices (BMI), the recommendation has been made for these individuals to maintain a BMI within the "healthy" weight range, which would correspond to a BMI between 18.50 and 24.99 kg/m^2 (Chan and Norat, 2015). A combination of healthy diet, smoking cessation, physical activity, and moderate alcohol consumption has thus been incorporated into official guidelines after BC treatment (Thomson et al., 2014). While the research to date shows an increasingly strong and positive link between physical activity and improved BC outcomes, the research on dietary intake is not as impactful or conclusive (Champ et al., 2012; Chlebowski, 2013; Magné et al., 2011). For example, research has not concluded that one

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particular diet over another reduces the risk of BC recurrence (Hamer and Warner, 2017). Yet generally, a balanced diet is recommended for women with chronic conditions to maintain overall health (Tramm et al., 2011).

Healthcare providers often prescribe weight management following a BC diagnosis to prevent adverse health outcomes such as secondary cancers, BC recurrence, and other chronic diseases (Rock et al., 2013). The documented negative psychosocial and physical effects of increased fat accumulation have led to a growing interest in the study of weight loss interventions for BC survivors, some of which have demonstrated a significant reduction in BMI (Kirshbaum, 2006). The majority of such studies focus on weight loss as the primary outcome, as measured by waist circumference and BMI, with fewer studies reporting on psychosocial outcomes – notwithstanding a small number of studies looking at the psychosocial effects of exercise alone (Reeves et al., 2014). These exercise studies have demonstrated improvements in depression, fatigue, and exercise stamina for women with BC (Fong et al., 2012) and improvements in self-esteem, self-efficacy, and cancer-related cognitive impairment (Awick et al., 2016; Campbell et al., 2017). In their review of weight management programs, Rock et al. (2015) recommend that BC support interventions incorporate self-monitoring strategies, meal planning, and cognitive restructuring. Importantly, studies in the area of healthy lifestyle modification for BC survivors rarely entail qualitative data, resulting in a lack of understanding of the weight loss experience and its psychosocial impact (Rock et al., 2015).

A growing body of research suggests that weight management interventions have a place within holistic BC rehabilitation programs—those that simultaneously target the physical, cognitive, mental, psychosocial, and existential challenges of BC survivors. In order to address this need, the *Healthy Lifestyle Modification After Breast Cancer (HLM-ABC)* pilot program was developed in the Psychosocial Oncology Laboratory based out of York University and the Odette Cancer Centre at Sunnybrook Health Sciences Centre. The HLM-ABC program is a professionally-facilitated, group-based intervention that has been delivered both in-person and online, for women who have gained weight after BC treatment or who were obese prior to their BC diagnosis (Male et al., 2018).

Recent reviews of weight loss interventions for BC survivors have called for a more comprehensive assessment of patient-reported outcomes, including psychosocial issues that are commonly overlooked (Reeves et al., 2014). Moreover, there is a paucity of research using qualitative methods in this area. Therefore, the primary aim of this study was to develop an in-depth understanding of the experiences of BC survivors who participated in the pilot HLM-ABC group intervention. Secondary aims were to elucidate the unique lifestyle change trajectories of each participant, gain insight into how participants understood their change process (or lack thereof), and identify unique barriers to healthy lifestyle modification among BC survivors.

2. Methods

2.1. Healthy Lifestyle Modification After Breast Cancer (HLM-ABC) intervention

The HLM-ABC program addresses the need for a supportive weight management group wherein BC survivors work individually and together to achieve sustainable and self-directed health goals. Other purposes of the program were to improve overall sense of well-being, QoL, anxiety, and body image. Implementing a weight management group after treatment is an optimal time to address concerns with weight gain and potential psychological sequelae that are commonly observed in the survivorship phase. The overarching theoretical framework of the intervention is primarily biopsychosocial – to target a broad spectrum of factors that may be contributing to unhealthy weight gain. Techniques, homework, and educational components are drawn from a range of theories and treatment models including self-determination theory (Ng et al., 2012; Patrick and Williams, 2012), the intuitive eating model (Tribole and Resch, 2012), behavioral activation (Lejuez et al., 2011), motivational interviewing (Clifford and Curtis, 2015; Miller & Rollnick, 2013), cognitive-behavioral therapy for weight management (Laliberte et al., 2009), and balancing self-acceptance and self-change from dialectical behavior therapy (Linehan, 2015). Examples of homework assigned included completion of decisional balance sheets, food record sheets, and behavioral experiments.

Table 1
Healthy lifestyle modification after breast cancer pilot program (HLM-ABC) pilot weekly structure.

Session Number	Group Topic
Session 1	Introduction and Orientation to the HLM-ABC Basic Principles: Balance (psychological, physiological, systemic) & Moderation
Session 2	Intuitive Eating
Session 3	Let's Get Moving
Session 4	Food & Mood
Session 5	Motivation and Decisional Balance
Session 6	Barriers and Promoters of Change
Session 7	Self-Care
Session 8	Body-Image
Session 9	Reviewing the Overall HLM-ABC
Session 10	Booster Session- Open Support
Session 11	Booster Session- Open Support
Session 12	Booster Session- Open Support

To test and develop the HLM-ABC intervention, a 12-week, face-to-face group was piloted at the Odette Cancer Centre. Each of these twelve group sessions lasted 90 minutes and were co-facilitated by a registered psychologist and a trained volunteer BC survivor. Each session involved elements of psychoeducation, group discussion, and a homework assignment. Homework assignments were either developed by the group facilitators or drawn from open source worksheets related to the topic area. Table 1 provides an overview of the HLM-ABC weekly topics.

2.2. Study participants

Healthcare providers at the Odette Cancer Centre assisted with recruitment, and flyers were posted in the Centre's waiting rooms. Prospective participants were screened by the research coordinator to confirm eligibility based on the following criteria: (1) diagnosis of a primary BC (stages I-III), (2) completion of primary BC treatment (surgery, chemotherapy and/or radiation) within the last five years (participants still could have been receiving continued hormonal or Herceptin treatment); (3) ability to read and write in English; (4) self-reported weight increase of five or more pounds' post-treatment (regardless of normal or overweight BMI before BC diagnosis), or overweight status since or before BC diagnosis (BMI of $\geq 25\,kg/m^2$). Of the seven BC survivors who participated in a screening interview, four women, each of whom completed active BC treatment within the previous five years (see Table 2 for participant demographics), went on to participate in the group. The main reasons for declining participation or exclusion included time constraints and not meeting the weight gain inclusion criterion. Verbal and written informed consent was obtained from all participants prior to commencing the intervention.

This study was approved by the research ethics boards of the Sunnybrook Health Sciences Centre and York University.

2.3. Data collection

This study used a longitudinal interview design in order to capture participants' ongoing and shared experiences as they progressed through the face-to-face HLM-ABC pilot group program. Participants were interviewed at four time-points: (1) pre-treatment, (2) mid-way

Table 2
Participant demographics.

Participant Number	Age	Ethnicity	Diagnosed BC Stage	Treatments
P1	44	Caucasian	Stage III	Bilateral Mastectomy Chemotherapy Radiation
P2	56	South Asian	Stage II	Single Mastectomy Chemotherapy Radiation Hormonal Therapy
P3	42	Caucasian	Stage III	Single Mastectomy Chemotherapy Radiation Hormonal Therapy Herceptin
P4	37	Caucasian	Stage II	Bilateral Mastectomy Chemotherapy Radiation Hormonal Therapy

*Note: Participant identifiers are used in place of pseudonyms to preserve anonymity of the participants.

through treatment, (3) post-treatment, and (4) three-months post-treatment. All interviews were semi-structured and audio-recorded. The interviews were conducted via telephone by the first author, who had over 5 years of experience in qualitative interviewing. The interviews lasted approximately 45 minutes to one hour each, and all took place over the course of a seven-month period, between November 2015 and May 2016. Topics that were addressed in the interviews included each woman's individual relationship to food consumption and physical activity, motivation, self-efficacy, barriers and facilitators to behavior change, and coping within the BC survivorship phase. Three of the four participants completed all four interviews, while one participant declined the three-month follow-up interview due to a health crisis. The total number of interviews was 15.

Based on the semi-structured interview guide, participants were asked to attend to specific components of their cancer experience while relaying their personal story (Josselson and Lieblich, 1999)—namely, their experiences concerning eating and physical activity and the changes they were striving to make in these two domains. Topics addressed through the interview included each woman's program goals, her relationship with food and physical activity, and perceived barriers and facilitators to making lifestyle changes. Following each interview, the interview guide was revised by the research team in an iterative fashion to include emerging themes and narrative storylines to be revisited during the next set of interviews.

2.4. Analysis

A narrative analysis approach was selected for this qualitative study for its ability to generate a nuanced depiction of health behavior change over time. The intention was to capture the potential variation between women's narratives in order to gain a comprehensive understanding of the phenomenon under study. Explicating observed variations in a particular phenomenon aligns with the methodological goal of seeking *fidelity* in qualitative research (Levitt et al., 2017). Striving for rich, vivid, and "encompassing" (p.11) narratives, we deliberately aimed for depth of narrative integrity, i.e., a series of interviews per individual over time rather than generalizability based on interviewing a large number of participants. To ensure "trustworthiness," Levitt et al.'s (2017) guidelines were used for upholding fidelity and integrity of the research aims, approach to inquiry, and the methods of qualitative analysis.

In a purist method of narrative interviewing, interviews are typically collected in an open-ended inquiry style presumed to yield a past-tense story with a beginning, middle and end; this approach differs from the purpose of this analysis, which was to capture a particular kind of present-tense storying—that of breast cancers survivors' attempting to modify their lifestyle. An effort was made to ensure that participants were given adequate space for reflection and participant-directed narration about their experiences in the intervention by asking open-ended questions and encouraging exploratory discussion throughout the interviews.

Analysis involved a two-phase process. The first phase consisted of a stand-alone narrative analysis of each participant's story, similar to a multiple-case study (Yin, 2014). The second phase involved identification of broader concepts that emerged from the data that were used to compare and contrast participants' case narratives (Arman and Rehnsfeldt, 2002). This second phase involved identification of 'thematic intersections,' drawing on Josselson's (2011) concept of "thematic interactions." These were themes that were similar notionally yet uniquely experienced by each participant. Presented below are the phase-two thematic intersections, which offer collective frames of reference within which to explore each woman's differing experiences of attempting to make healthy lifestyle modifications. The main focus of this analysis is the thematic intersections rather than a presentation of the singular, detailed case studies because the themes provided a more focused comparison across participants.

All interviews were audio-recorded and transcribed with ExpressScribe software. Transcripts were managed with HyperRESEARCH software (Version 3.7.1; Computer Software, Researchware Inc., 2014). The present analysis was guided by approaches to narrative inquiry outlined by Kohler-Riessman (2008) and Josselson (2011), and the framework set out by the Centre for Interdisciplinary Research on Narrative at St. Thomas University (Randall et al., 2015). Each set of transcripts belonging to a single participant was read in its entirety and in sequence beginning with the pre-treatment interview. Stretches of speech or narrative segments (Kohler-Riessman, 1990) were identified in the transcripts, wherein participants were actively 'storying' and 'making-meaning' of their experiences. Narrative thematic intersections were then categorized according to similarities in content across participants' transcripts and were analyzed "both as individual units and in relation to one another" (p.1195, Kohler-Riessman, 1990). All stages of the narrative analysis were collaborative, whereby the research team discussed and debated narrative segments in an effort to integrate multiple perspectives in the analysis and reach a consensus on the main themes.

3. Results

Each of the four participants was assigned a pseudonym: *Sarah, Valerie, Eva, and. Jessic*a, respectively. Character sketches of each participant are provided below in order to orient the reader to the sample, and contextualize the themes that are the focus of the current analysis. Beyond the relevant point that all of the participants in this study were mothers, other demographic details were altered to ensure confidentiality of the participants.

3.1. Character sketches

Sarah: Sarah narrated a story of defeat and hardship with relatively few narrative arcs or changes. She felt distinct from the other women in that she carried a genetic mutation for cancer and was diagnosed with a rare autoimmune disorder following her BC treatments. Her experience with the group was both positive and negative; although she managed to make some lifestyle changes such as food monitoring and increased physical activity, her narrative was playful, yet also sometimes dominated by fear. She emphasized the point that for her, living with the knowledge of being at higher risk of cancer recurrence, due to her mutation, seemed to be crippling her efforts to make change.

Eva: Eva was a single mother who narrated a slow process of change, albeit within an expressive story. Her main concern was her health and staying well for her young daughters. Thus, her primary motivation for attending the group was to prevent cancer recurrence. However, her past unsuccessful weight loss experiences loomed over her current participation in the HLM-ABC program. She felt quite hopeless in this regard in part because she identified with being an overweight person and was struggling with the perceived medical pressure to "lose weight or die." Eva made sense of her participation in the group, and made the most gains, by reframing her thoughts and feelings towards a healthy lifestyle, rather than making behavioral changes.

Valerie: Valerie was a mother to a young son whose narrative read like a prototypical 'voyage and return' story. She found herself experiencing a complete loss of control over her eating habits and activity choices post-treatment. Thus, she endeavored to voyage back and reclaim her pre-treatment habits that were consistent with her self-concept as a healthy individual. Overall, Valerie's narrative was linear and plot-driven in how it began with a clear conflict or complicating action, progressed to an intermediary stage of problem-solving, and eventually came to a definitive resolution. Her self-reported health behavior change and increased fitness spoke to a tangible change in self-characterization and lifestyle habits.

Jessica: Jessica was a married mother with two grown children whose narrative was concentrated on preventing cancer recurrence through adoption of a healthy lifestyle. Weight loss was therefore not her primary focus. Instead, she tried to eat more fresh foods and increase the amount of physical activity in her life – which she hoped would also help improve her low mood. She struggled with a loss of identity due to her BC diagnosis, but while participating, narrated her experience with positivity and hope for the future. Jessica's story exhibited a smooth change trajectory in terms of forming and maintaining physical activity habits, wherein she set clear goals that evolved into concrete behavioral changes.

3.2. Narrative intersectional findings

The narrative intersectional analysis resulted in three main themes: (1) Weight management prescription as a motivator or deterrent, (2) 'Time for me' is time away from my family, and (3) Patterns of opposition to lifestyle change. Table 3 offers a summary and comparison framework of the narrative intersectional themes as they relate to each individual participant.

Weight management prescription as a motivator or deterrent: The evidence pointing to the association between reduced risk of cancer recurrence and being within a normal BMI range had a complex existential impact on the participants. Sarah, for example, mentioned how scared she was of her cancer returning, and yet the knowledge that losing weight may help to reduce her risk of recurrence did not increase her motivation to do so. She said, "I know that diet and exercise are the number one scientifically proven ways to help prevent recurrences of cancer, yet knowing that is not enough for me to always stop eating and get off the couch." Sarah pressured herself to exercise, which had a paradoxical, paralyzing effect that ultimately stifled her efforts, and contributed to her more oppositional orientation toward the goals of the group. Interestingly, Eva explained that her stance toward lifestyle modification was, in part, related to the shock she experienced when she was diagnosed. This life-changing event left her with a pervasive sense of unpredictability, a perceived lack of control, and a belief that attempts at change (i.e., therapy or lifestyle changes) might be futile for her. In her words, "you are always yourself no matter where you go." In the context of the HLM-ABC program, this translated into Eva feeling a lack of efficacy in relation to implementing lifestyle changes.

On the other hand, Valerie and Jessica were motivated by the scientific evidence linking behavior change to reduced rates of cancer recurrence, so they seemed to leverage the principles of the HLM-ABC program in order to support their weight loss efforts. With respect to

Table 3

Storytellers				
Narrative Intersectional Themes	Sarah	Eva	Valerie	Jessica
Patterns of opposition to lifestyle change: Positive or negative relationship to the HLMABC	External opposition – projected towards group principles: avoidant of homework and change	External opposition- avoidant of topics related to her weight loss attempts and body image	Internal opposition- hoped to identify and solve psychological barriers	Internal opposition- focused on keeping her mind and mood healthy through conscientious adherence to program principles
Weight management prescription as a motivator or deterrent: Existential response to the HLM-ABC	Story of defeat and hardship; plagued by her gene mutation; weight loss perceived as a burden	Overwhelmed by existential fears and by perceived pressure to 'eat well' and lose weight	Perceived lifestyle modification as a benefit to her health	Perceived lifestyle modification as a benefit to her health
Time for Me is Time Away From My Family: Tension between caring for the self and caring for others	Managed to balance family and healthy lifestyle needs	Family time took priority over her lifestyle	Incorporated family time with physical activity time	Inspired by the other women to find time for multiple responsibilities (self and family)

prioritizing health, Valerie compared her pre- and post-cancer selves:

> (When) you work out, you're healthy but that wasn't my focus, my focus was like 'Do you feel good, do your clothes fit?' And I felt good about myself and I could look in the mirror and feel great and then, then as secondary was… 'Okay now I'm healthy.' Whereas now, through cancer and everything I understand the importance of being healthy that much more.

The shift in meaning of healthy lifestyle behaviors pre-to-post cancer from feeling "good" and looking "great" to "being healthy" became a driving force for Valerie to continue with her fitness regimen. Jessica had a similar experience wherein she used the HLM-ABC program as an opportunity to keep on track. She hoped to stave off cancer recurrence as best she could by adopting a healthier lifestyle, alongside improving her day-to-day mood and quality of life. Active engagement in the program enabled Jessica to increase her experience of personal control in relation to cancer, which in turn helped her feel more like herself again. In addition, her experience of her mastectomy and loss of one breast illustrated her sense of agency and active efforts to maintain her health:

> I just accept it as it is because some people lost their legs, some people lost their arm and some people lost some part of important organs, but then I kind of say to myself 'That's no big deal.' I just lost one side of the breast. I hope I can keep the other side healthy.

In sum, the ability to influence cancer recurrence through weight or fat reduction was a strong point of intersectionality among the women. In this regard, weight loss was perceived as either an imposing injunction to change which led to opposition or paralysis, or as a promise of sustained health which led to increased motivation and unencumbered participation in the HLM-ABC.

Time for Me is Time Away from My Family. Balancing motherhood with maintaining a healthy lifestyle emerged as a strong communal theme during the interviews. The problem of sacrificing family time for personal health reasons (i.e., for exercise and food preparation) was expressed by three of the participants, and hindered their participation and self-care attempts in different ways. Tending to family needs affected Jessica's mood negatively; Eva prioritized spending time with her daughters; Valerie could not always find a babysitter for her son that would allow her to engage in physical activity. Eva and Valerie came to a resolution by making a point to engage with their children in physical activities, which provided a practical solution to the dilemma of having to sacrifice quality family time in order to adopt more healthful habits. In this regard, Jessica found the group's collective problem-solving helpful:

> The group members sharing [was] um quite, quite helpful because like they're all young mums um surviving from cancer and they are trying their best to overcome obstacles and to lead a healthier lifestyle. Their effort and their motivation is really inspiring.

Underlying the tension between family and health were feelings of guilt for taking time for oneself. Eva shared anecdotes that had a self-critical tone related to her perceived failure for not spending enough time with family, as well as in relation to her lifestyle accommodations. She spoke about foregoing any physical activity because she felt her family and work schedules were "too hectic." However, a change was witnessed over the course of the group in how Eva conceptualized lifestyle modification and setbacks. She said she felt more "forgiving" and if one of her exercise schedules did not "stick," then she would be open "to trying something else" instead of giving up on herself. It seems that Eva developed a more self-compassionate perspective toward adopting a healthy lifestyle. This shift in perspective also translated into practice; for example, she began taking more walks to the park with her young daughters. Eva's experience was similar to Valerie's and Jessica's in that the tension between caring for oneself and caring for others made lifestyle accommodation challenging, yet one that each woman managed to, creatively and uniquely, overcome.

Patterns of Opposition to Lifestyle Change: The participant narratives revealed a range of oppositional styles toward making lifestyle changes. Thematically, opposition was organized around internal and external forms of resistance; that is, resistance that was directed externally at behavioral change, or toward oneself. For example, Sarah and Eva demonstrated a more externally–resistant stance, which was reflected in the overall tone of their narratives. Initially, Eva seemed to passively surrender when met with the challenge of altering her lifestyle, while Sarah expressed explicit opposition. Sarah's narrative tone possessed an intentionally humorous and rebellious edge to it with respect to the 'prescription' to adopt a more healthful lifestyle, as per the health promotion campaigns directed toward cancer survivors: "Yeah I'll just say I'm not doing this, screw this, you can't tell me what to do." The nonconformity evident in Sarah's narrative gave the impression that she was 'pushing back' against a number of medical conditions she was struggling with including her recently diagnosed autoimmune disease. This 'push back' seemed to afford her with a sense of control over her future. In contrast, Eva's form of opposition was more understated in its passivity but appeared to be related to her history of unsuccessful attempts to lose weight. In Eva's own words, her "champion avoider" stance toward exercising or changing her diet served the purpose of protecting her from further disappointment. Both women's forms of resistance worked against the underlying principles of the intervention explicitly. They, for example, contested the module on self-care where participants were asked to find time to tend to their own health needs, or they were inclined to avoid completing the homework. In essence, Sarah's opposition appeared to be linked to expressing her autonomy, whereas Eva's seemed to serve the purpose of evading repetition of "failed" attempts at weight loss.

While Sarah and Eva projected their opposition outward, Valerie and Jessica were more inwardly oppositional yet seemingly more motivated. In particular, Valerie was focused on unpacking her personal, psychological barriers, as she described in the post-treatment interview:

> I think I just learned a lot more about myself and why I do things I guess and why I, you know, choose, for example, not to work out, or choose to like make the decisions that I do. And so, it just helps me um, you know, understand better why I do and it makes it then easier to make the right choices.

Like Sarah, Valerie spoke of healthcare providers being prescriptive about making lifestyle choices, which she experienced as an imposition forced upon her (e.g., strong suggestions for exercising multiple times a week). However, unlike Sarah, she also emphasized how her personal inner conflicts prevented her from overcoming obstacles to improving her health. Notwithstanding these women's varied presentations of readiness for change, all four participants held in common their openness to re-framing their attitudes in terms of how they conceptualized and thought about lifestyle modification after BC. For example, Eva stated in the post-treatment interview:

> I do feel more positive about being able to shift my weight, even though I don't, like over the course of the group, I don't think it did. But I do feel like I've, you know, gained some tools and I don't know, it just feels more possible right now than it did before the group.

4. Discussion

The current study aimed to yield an in-depth depiction of the various ways in which four BC survivors approached an opportunity for health behavior change by partaking in a pilot intervention intended to promote healthy lifestyle modification. The dearth of qualitative studies in this area, relative to the growing amount of quantitative and/or weight-loss outcome research, has left a considerable gap in our knowledge about the *process* and *meaning* of healthy lifestyle change among BC survivors. To address this gap, four participants were

interviewed longitudinally over the course of their participation in the HLM-ABC group program in order to understand their idiosyncratic lifestyle change trajectories, processes of change, and barriers along the way.

The content of the narratives spanned different areas of psychosocial interest including existential challenges, personal agency, self-compassion, motivation, and locus of control. Results both echoed and added to the existing findings concerning the lived experiences of weight difficulties among BC patients and survivors. For example, Pedersen et al. (2017) described how BC survivors interpret their bodily changes in light of fears of cancer recurrence, seeing weight maintenance as vital to their survival. In this study, knowledge of the association between excess adiposity and increased risk of cancer recurrence was an incentive to take control of one's weight and thereby reduce existential fears. Indeed, we know that fears of cancer recurrence are present among BC patients before they enter the survivorship phase (Meade et al., 2017). The majority of the participants enrolled in the HLM-ABC program had the intention of, at least indirectly, better managing fears of cancer recurrence. A unique finding, however, was the incongruous paralyzing effect that enrolling in a structured intervention had when the individual perceived their lifestyle change efforts as being futile. Feelings of helplessness arose when participants also considered the risk of other potentially unmodifiable factors, such as having a genetic mutation or previously unsuccessful experiences with weight loss, as per Sarah and Eva's narratives. This finding is related to what has been demonstrated in the health behavior change literature on an individual's perceived source of determination, i.e., internal or external locus of control, and weight loss outcomes (Williams et al., 1996). Therefore, future structured interventions of this sort might explore this underlying attitude and directly seek to support a shift toward a more self-determined and autonomous stance toward change.

The distinct *patterns of opposition to lifestyle change* evident in each woman's narrative represented a strong thematic intersection across participant experiences. Psychological resistance has been studied extensively in the context of various medical and psychotherapeutic modalities. In his review of the concept of resistance broadly, Messer (2002) explains that resistance typically occurs within the therapeutic relationship if the client perceives a loss of freedom or control. Reluctance was evident in some of these participants' expressed lack of willingness to change their attitudes and behaviors outside of the group context. For example, Sarah and Eva's resistance manifested in the form of contesting the change-oriented mandate of the group, whereas Vanessa and Jessica's resistance was more internally-oriented, as they perceived their barriers to be mainly personal and psychological. Ultimately, an internal-resistant stance appeared to be associated with the participants' perceived success in the intervention, compared to an externally-resistant stance which was associated with greater ambivalence toward the intervention.

The transtheoretical model of change, based on six discrete stages, offers a useful explanation in attempting to understand the range of psychological resistance displayed within the present group of participants (Prochaska and Velicer, 1997). Participants like Sarah and Eva seemed to be situated for the majority of the intervention in the 'pre-contemplation stage,' on some level not intending to take any foreseeable action in the near future despite their willingness to participate in the group. It seems they may have been situated at a cognitive-processing stage, more inclined to *discussing* their ambivalence toward change rather than *acting* on change. However, because the HLM-ABC program was designed for the 'action phase,' Eva and Sarah may have been misaligned in terms of their readiness, rendering them less amenable and responsive to the intervention at that given moment in their survivorship journey.

The motivational interviewing (MI) literature focuses on remedying resistance by enhancing intrinsic motivation and discussing ambivalence to change (Moyers and Rollnick, 2002). Clifford and Curtis (2015), experts in MI for nutrition and fitness, contend that practitioners may find it beneficial to screen for potential readiness for change and/or incorporate MI in their interventions in order to provide motivational support. Accordingly, more recent versions of the HLM-ABC program include an assessment of motivation during the pre-treatment interview and incorporate MI techniques into the intervention. More studies focusing on motivation and internal and external barriers to participation among BC survivors seeking weight management services are needed.

Murray (2000) contends that narrative research can capture an "ideological level" (p.342) of analysis, revealing broader sociocultural assumptions and belief systems that arise within an individual narrative. Interestingly, this group of participants had difficulty incorporating healthier habits into their lifestyles because of a conflict between their identities as cancer survivors who are culturally and medically-sanctioned to 'stay healthy', and as mothers, who felt they should tend to their family's needs before their own. The latter suggests a cultural-systemic phenomenon that feminist scholars have observed for some time. Functioning as a self-sacrificing mother in society has been termed the "good mother stereotype" (Etaugh and Bridges, 2013) and is associated with a code of behavior where a mother should not act as if she is entitled to give to herself before she has taken care of others (Bepko and Krestan, 1990). This theory helps to explain why asking participants to make time to establish healthy habits may elicit feelings of guilt and even shame over prioritizing themselves. Given the high probability of being both a BC survivor and a mother, these competing identities may present themselves as a barrier to lifestyle modification among BC survivors. Therefore, lifestyle interventions aimed at this population should consider addressing the dialectic tension between these aspects of identity.

A potential limitation of the current study is its small sample size. However, it should be noted that the present analysis was intended to be a detailed, in-depth longitudinal study of the complex phenomenon of lifestyle modification after BC, consistent with multiple-case study designs and narrative research (Josselson, 2011; Yin, 2014). As such, the results of this study are informative but not generalizable to the population of BC survivors who choose to partake in structured healthy lifestyle or weight loss interventions. Another limitation is that although all of the participants in this study were BC survivors who received their treatment at the same facility, they underwent a range of different treatments, were diagnosed at different stages of BC, and were situated in different BMI weight classifications. Future studies might choose to focus on uniformity of the participants in terms of BC history in order to customize healthy lifestyle plans and to increase the likelihood that all participants are situated at a similar stage of change, specifically for certain sub-groups of BC survivors (Reeves et al., 2014). In particular, it may be important to differentiate between women with weight difficulties prior to their BC diagnosis, versus women who were average weight pre-morbidly and who gained weight after treatment.

5. Conclusion

The current investigation contributes to a deeper understanding of the process of attempted weight loss and lifestyle modification among BC survivors. This study demonstrates the potential for developing healthy lifestyle interventions that take a psychosocial, or holistic, orientation to health behavior change. It appears that understanding individual and systemic barriers to change have become increasingly important in supporting weight maintenance efforts among oncology populations, in particular for those in the survivorship stage. More studies are needed to improve our empirical understanding of the psychosocial impact of lifestyle modification programs on BC survivors, for example the association between lifestyle modification and existential concerns.

Clinical implications

Healthcare providers and program developers may be informed of emotional and motivational complexities underlying healthy lifestyle modification among BC survivors. This research sheds light on the manner in which a highly common post-treatment health safeguard (i.e., the recommendation to maintain a healthy weight) is received and dealt with by BC survivors. For instance, determination of whether survivors experience prescription of weight loss by their healthcare providers as either motivating or deterring appears to be critical in establishing realistic weight loss goals and tailoring interventions to meet the unique needs of the individual. Oncology nurses may be uniquely positioned within a BC survivor's care path to recognize barriers and facilitators to health behavior change and bolster efforts to improve lifestyle habits.

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