Quality of Life and Resilience

Exploring a fly fishing intervention for breast cancer survivors

Barbara J. Henry, DNP, APRN-BC

BACKGROUND: The Casting for Recovery® therapeutic intervention provides a positive, non-traditional weekend experience for breast cancer survivors. Participants receive fly fishing instruction and participate in structured and unstructured therapeutic activities.

OBJECTIVES: The aim of this study was to evaluate whether breast cancer survivors had improved resilience and quality-of-life scores after program participation.

METHODS: Participants completed the Quality of Life Breast Cancer questionnaire and Connor-Davidson Resilience Scale two weeks before and three and six months after the retreats.

FINDINGS: No statistically significant differences between pre- and postintervention quality-of-life or resilience scores were noted. However, qualitative data reflected a high degree of participant satisfaction, healing, and learning. Participants added that peer and volunteer connections, group camaraderie, good nutrition, being in nature, and learning a new skill were all positive aspects of the program.

QUALITY OF LIFE (QOL) DURING POST-TREATMENT BREAST CANCER SURVIVORSHIP is an important research topic. Many studies have explored the effects of traditional interventions on physical, psychological, social, and spiritual QOL in breast cancer survivors (Meneses et al., 2007). Other studies have explored the effects of exercise, yoga, and additional complementary therapies on the QOL of breast cancer survivors (BCSs) (Kendall, Mahue-Giancreco, Carpenter, Ganz, & Bernstein, 2005; Lengacher, Bennett, Kip, Berarducci, & Cox, 2003; Northouse, Kershaw, Mood, & Schafenecker, 2005), and one study explored the psychological benefit of a therapeutic fly fishing retreat with veterans (Veila, Milligan, & Bennett, 2013). The current article will report on the first study to explore the effects of a therapeutic fly fishing program on BCS QOL and resilience and provide oncology nurses with knowledge about this nontraditional intervention.

Literature Review

BCSs are living longer, even those with metastatic disease and disease recurrence (Azuero, Su, McNees, & Meneses, 2013; Gao & Dizon, 2013). More than 2.8 million breast cancer survivors were living in the United States (American Cancer Society, 2016a). A cancer diagnosis can lead to significant psychosocial distress in as many as 75% of cancer survivors (Galway et al., 2012).

The risk of psychosocial distress in patients with cancer is nearly twice that of the general population (Hinz et al., 2009). Women demonstrate considerable psychological distress the first year after breast cancer diagnosis, including shock, emotional numbness, depression, and anxiety (Avis, Crawford, & Manuel, 2005; Baucom, Porter, Kirby, Gremore, & Keefe, 2006; Bloom, Stewart, Chang, & Banks, 2004). Many studies report on traditional interventions, such as individual and group psychotherapy sessions or support groups (Arving et al., 2007; Badger et al., 2013; Cerezo, Ortiz-Tallo, Cardenal, & Torre-Luque, 2014; Sood, Loprinzi, Sharma, & Prasad, 2012). These interventions may occur in hospitals or outpatient centers, sessions may last 90 minutes or longer, and programs may last from eight weeks to one year.

In 2005, the National Cancer Institute and the American Cancer Society chose resilience as a theme for survivorship research (Rowland & Baker, 2005). Many cancer survivors show remarkable resilience in the face of severe illness;
some people are naturally more resilient than others when facing major life crises, such as cancer (Rowland & Baker, 2005). Research indicates that individual personality differences play an important role in people’s reaction to adversity, such as a cancer diagnosis (Carver et al., 2005).

A growing body of literature has researched the effects of less traditional psychotherapy interventions. Complementary therapies, such as mindfulness meditation, guided imagery, and yoga, have been shown to be effective in reducing emotional distress and improving QOL in BCSs (Appling, Scarvalone, MacDonald, McBeth, & Helzlsouer, 2012; Moadel et al., 2007). A need exists for nontraditional therapeutic interventions that attract more participants, are less demanding of extended time intervals, and accept participants of all ages and disease stages. Building on the classic group therapy guidelines (Friborg, Sorlie, & Rosenvinge, 2005; Spiegel, Bloom, & Yalom, 1981), a model for group treatment to improve resilience was proposed—the Casting for Recovery® (CFR) program—using themes specific to breast cancer. The goals of the CFR program are:

- To provide participants with a true retreat—respite from familiar surroundings and routines in a beautiful natural setting where emotional well-being can flourish
- To reduce the isolation that often accompanies breast cancer through an opportunity to be with others with the shared experience of breast cancer

FIGURE 1.
CASTING FOR RECOVERY EVENT SCHEDULE

DAY 1
Staff arrive, are oriented, and set up a few hours prior to participant arrival. That afternoon, participants arrive, check in, and receive their fishing gear. Introductions and an overview of the program follow, and the day concludes with dinner and a group gathering.

DAY 2
Breakfast begins the day, followed by an overview of the equipment and knot-tying instruction and practice. Warm-up exercises and introductory casting demonstrations follow. Participants have lunch and then take part in a discussion led by a medical facilitator about the physical effects of breast cancer. Afternoon events include tying flies, followed by dinner and an ‘evening circle’ discussion led by a psychosocial facilitator about the emotional effects of breast cancer.

DAY 3
The day starts with a spiritual gathering and breakfast. Catch-and-release fly fishing with an experienced fly fishing partner follows until lunch. After lunch, participants take part in a graduation ceremony and depart. Later, staff members debrief and depart.

Note. Schedule may vary by retreat and retreat location.

- To offer participants an opportunity to consider the meaning of learning a new skill as a commitment to their future
- To focus on wellness as opposed to illness; empowerment as opposed to helplessness
- To provide educational resources for both breast cancer and fly fishing.

A sample of 42 BCSs took part in a 2011 pilot study of CFR therapeutic fly fishing weekend retreats (Henry, 2012). Participants completed the National Comprehensive Cancer Network’s Distress Thermometer, mailed two weeks prior and two weeks after the retreats (Henry, 2012). The BCSs had decreased emotional distress scores two weeks following the intervention.

Conceptual Framework
The current study used the Ribbon of Cancer Survivorship theory as a foundation for understanding BCS QOL and resilience and to describe the phases of cancer survivorship and psychological coping (de Guzman et al., 2013). The theory was developed using the grounded theory approach, with 27 Filipino cancer survivors diagnosed at least six months prior to the study (de Guzman et al., 2013). In that study, survivors, who were aged 40 years or older, moved in and out of the phases and stages of cancer survivorship many times in their cancer journey and often experienced fear of recurrence (trembling stage) (de Guzman et al., 2013).

Healthcare professionals involved in any type of therapeutic intervention with cancer survivors may encounter coping behaviors reflected in phases and stages of survivorship. Although the Ribbon of Cancer Survivorship was not developed specifically for BCSs, it is applicable to the CFR program because participants may experience a wide range of emotion and movement through the stages and phases of cancer survivorship during the weekend retreat activities.

Methods
This pre- and postintervention study drew participants from six locations. Participants completed the Connor-Davidson Resilience Scale (CD-RISC) (Connor & Davidson, 2003) and a Quality of Life Breast Cancer (QOL-BC) questionnaire (Ferrell, Grant, & Hassey-Dow, 1995) two weeks prior to attending a CFR retreat and three months and six months after the retreat. Statistical analysis using SPSS®, version 21.0, was completed using repeated measures within-group analysis of variance to determine if a significant difference existed between pre- and postintervention resilience and QOL mean scores. Participants also completed an evaluation form provided by the national CFR office and distributed via email or paper for participants who did not have email. Evaluations were collected and tabulated by the national CFR office staff. The study was approved by the Northern Kentucky University Institutional Review Board with informed consent from participants who completed each online survey containing the quantitative tools.
**Intervention**

CFR retreats are held in a nature setting, during which BCSs engage in activities such as psychosocial support groups, fly fishing instruction and practice, and bonding with other BCSs. The program was founded in 1996 by a fly fisherman and a breast cancer surgeon to provide activities to improve BCS QOL. The mission of CFR is to enhance the QOL of women with breast cancer through a unique program that combines breast cancer education and peer support with the therapeutic sport of fly fishing. The retreat offers opportunities for women to find inspiration, discover renewed energy for life, and experience healing connections with other women and nature. CFR is a nonprofit organization that relies on more than 1,600 volunteer medical, psychosocial, and fly fishing volunteers.

Activities to improve physical QOL during the retreat include the gentle, rhythmic motion of fly casting, which is similar to exercises often prescribed after surgery or radiation to promote soft tissue stretching (American Cancer Society, 2016b). Unlike other therapeutic fly fishing programs, CFR retreats include spiritual and psychotherapy components led by CFR volunteer psychosocial and medical professionals. Participants attend psychoeducational activities in a safe environment among a supportive group of peers. They learn a new skill of fly fishing and gain a reprieve from the stressors and challenges of the cancer journey. Although no randomized clinical trials on the CFR program exist, qualitative evaluations by staff and participants have been used to revise and improve the experience for BCS participants.

CFR therapeutic retreats are held in lodges with a nearby stream, pond, or lake for fly fishing. Each lodge has heated and air conditioned rooms. Fourteen participants have one roommate each, which allows time to get to know another survivor on a one-on-one basis as well as participate in group activities that bond all the participants. Participants may opt out of any activity, although they are encouraged to exchange contact information and keep in touch after the retreat. Seventy percent of CFR participants have not attended other support groups (CFR, 2016). At least one psychosocial facilitator and one medical facilitator are available at each retreat. In addition, group size is limited to 14 participants and 6–11 staff members. A staff meeting takes place prior to the retreat, and the staff receive an aggregate of information obtained from participants’ registration forms. A typical retreat format is presented in Figure 1.

Most states have a central location for the retreat to draw participants from across the state. For example, the CFR Ohio retreat is held at Indian Bear Lodge in Walhonding, close to Columbus. Participants drive themselves to and from the retreat location, often carpooling with other survivors from their area. All activities are optional with accommodations for physical limitations of participants. Some retreats conduct reunion and fundraising events between retreats for alumni. CFR retreats

| TABLE 1. | SAMPLE CHARACTERISTICS (N = 26) |
| CHARACTERISTIC | n |
| Age (years) | |
| 35–54 | 8 |
| 55–64 | 11 |
| 65 or older | 7 |
| Ethnicity | |
| White/Caucasian | 23 |
| African American | 2 |
| Other | 1 |
| Education | |
| High school diploma or GED | 3 |
| Some college | 2 |
| Two-year degree | 2 |
| Four-year degree | 6 |
| Master’s degree | 12 |
| PhD or equivalent | 1 |
| Annual income ($) | |
| Less than 30,000 | 2 |
| 30,000–59,000 | 10 |
| 60,000–89,000 | 6 |
| 90,000–149,000 | 7 |
| No response | 1 |
| Family label | |
| Married | 12 |
| Single | 11 |
| Partnered | 3 |
| Years since breast cancer diagnosis | |
| 3 or less | 18 |
| 4–6 | 3 |
| 7–9 | 1 |
| 10 or longer | 4 |

Note. Participants who completed all three surveys were included.
serve about 600 women annually in 42 states; sister organizations are active in other countries.

**Sample**
Six sites were surveyed for this study, with a possible 84 participants eligible for the study. Fourteen participants from each retreat were randomly selected by CFR national office staff. Two alternates were chosen in case of emergencies or cancellations. Participants were required to be mobile, adult (aged 18 years or older), female, and a BCS of any disease stage.

Seventy-eight participants were eligible to participate in the study, and 26 of those participants completed all three surveys. Participants received the first online survey two weeks prior to the date of their CFR retreat. A letter of consent was included with each survey, instructing participants that completion of each survey served as informed consent and that they could withdraw at any time. The contact information of the principal investigator and dissertation committee chair were provided for questions or additional information. Two retreats had 14 participants, three had 13, and one retreat had 11 participants. Two weeks prior to the retreat, 65 of the 78 possible participants completed the first survey for a return rate of 83% (time one [T1]). For the time two (T2) measure at three months postintervention, 62 of 65 (95% return rate) completed the first two surveys. For the time three (T3) measure at six months postintervention, 58 participants (89% return rate) completed all three surveys. Nineteen participants chose to enroll for the $50 gift card drawing at T2, and 41 participants entered the $100 gift card drawing at T3. Some participants only completed surveys once or twice rather than all three times, and some participants did not answer all the questions at each measurement interval. Only those participants who completed all questions at all three times were included in the secondary data analysis (N = 26). Demographic information can be found in Table 1.

**Instruments**
The QOL-BC (Ferrell et al., 1995) and CD-RISC (Connor & Davidson, 2003) have been validated and used by many other investigators. The QOL-BC is a 46-item ordinal scale based on previous versions of the instrument developed by researchers at the City of Hope National Medical Center (Ferrell et al., 1995). The CD-RISC is a 25-item questionnaire that has been compared to numerous other measures related to many aspects of resilience, such as hardness, social support, stress-coping ability, self-esteem, life satisfaction, successful aging, and positive and negative effect (Connor & Davidson, 2003).

Qualitative data were collected online or in writing from the CFR participant evaluation forms. The purpose of collecting qualitative data from participants was to improve future CFR retreats and assess participants’ perceptions about the value of the program.

**Findings**
No statistically significant differences existed between pre- and postintervention resilience scores ($F = 4.43, 1.04, p = 0.36$). There were no statistically significant differences between pre- and postintervention total QOL scores ($F = 20.65, 1.13, p = 0.335$), physical QOL scores ($F = 12.21, 1.42, p = 0.252$), psychological QOL scores ($F = 15.84, 0.17, p = 0.847$), social QOL scores ($F = 15.97, 0.07, p = 0.932$), or spiritual QOL scores ($F = 19.89, 0.02, p = 0.98$).

**Discussion**
Although quantitative data did not reflect statistically significant changes in resilience and QOL scores, the qualitative data from participant evaluations show that 100% of the BCSs would recommend the CFR program to future BCSs (see Table 2). Optional comments written by participants included, “It is an unforgettable memory,” “This retreat was a great experience for me and I’m so happy to be invited,” “An amazing experience; I will recommend this to all breast cancer survivors,” and “It was great learning a new skill.”
The sample of 26 women may not accurately portray the benefits of the CFR program to the roughly 2,700 women who have participated to date. Respondents in this sample were comprised of mixed age, education, and family demographics, providing a rich pool of data.

Given the age of the participants, it may have been appropriate to use individual ages rather than ranges because younger survivors may be involved in the future. The sample in this study appeared to reflect the general population of BCSs more so than the ethnicity of this group. Demographics from the analysis of 26 participants who completed all three surveys were very similar to those of the initial 65 responders.

Given that 86% of the 65 initial responders in this study were Caucasian, many with higher education and annual income than the general population, it would be helpful to study the effects of CFR and other programs on the QOL of other ethnic groups, socioeconomic groups, and education levels. Underserved populations might increase their use of the program if transportation were provided, although CFR participants are encouraged to and often do carpool with participants from the same area.

Although the differences in BCS QOL and resilience scores were not significant, other psychological benefits may come from any of the activities. For example, participants described peer and volunteer staff support, group camaraderie, good nutrition, being in nature, and learning a new skill as positive factors. CFR staff observed strong socialization and bonding among participants at each retreat, particularly between roommates and those who had similar disease courses or other things in common. This finding may also indicate the need for increased social support after the intervention. Volunteer CFR staff and alumni have initiated ways to increase social support after retreats, such as public and private Facebook pages, Yahoo groups for messaging, and CFR staff and alumni gatherings.

**Implications for Practice**
- Provide information to patients with breast cancer about programs such as Casting for Recovery® and the possible benefits of attending such a program.
- Educate breast cancer survivors about traditional psychotherapy or support groups.
- Volunteer at Casting for Recovery or similar programs to help enhance emotional support for breast cancer survivors.

Spiritual activities included in the retreat may have lasting effect on participant spiritual activities after the retreat, but this aspect was not explored in the current study.

Psychotherapy interventions with more structure and material specific to BCSs have reported better results than support groups or general psychotherapy groups (Cousson-Gelie, Bruchon-Schweitzer, Atzeni, & Houede, 2011; Sood et al., 2012). Medical and psychosocial professionals facilitate educational and emotional support groups at CFR retreats, addressing specific physical and mental health concerns of participants. CFR has been shown to be a positive therapeutic experience for participants, 99% of whom would recommend it to other BCSs.

**Limitations**
The study was not a randomized, controlled trial, and the attrition rate between T2 and T3 was high. Completion of three different surveys (total of 71 questions each time) may have proven to be too cumbersome for some participants. Participants who were not computer literate would have had difficulty participating in the study.

**Implications for Practice**
The study was developed by the author based on a clinical practice phenomenon observed in five years as a CFR volunteer psychosocial facilitator. Although the research hypothesis that CFR retreats improve breast cancer resilience and QOL was not proven with quantitative measures, the qualitative program evaluation tool measured program outcomes, subjective data, and participant satisfaction. Many nurses and other healthcare professionals are not aware of the CFR program. Nurses and others can increase referrals to CFR by presenting information, program applications, and the organization’s website (https://castingforrecovery.org) to BCSs and other oncology staff.

**Implications for Research**
Advanced practice nurses may use this study as a framework for developing research in their own practice areas. A large sample mixed-method evaluation of the CFR program could be developed to assess the impact and participant satisfaction and to yield statistically and clinically significant results.

**Conclusion**
This study evaluated the efficacy of the CFR program on BCSs’ QOL and resilience. CFR is unique in that it is the only nontraditional therapeutic intervention to improve BCS QOL using a combination of physical, psychological, social, and spiritual activities. It is the only...
program found in the literature search that accepts BCSs of any age and any disease state, as long as they are mobile. Although this study did not produce quantitative evidence to support CFR improving QOL and resilience, qualitative data indicates the positive impact of CFR on participants.

Barbara J. Henry, DNP, APRN-BC, is a psychiatric advanced practice nurse for Melvin S. Gale MD and Associates in Cincinnati, OH. Henry can be reached at bjhenry@ad.com, with copy to CJONESons.org. (Submitted April 2016. Accepted June 4, 2016.)

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REFERENCES


