

## Exercise: Complementary Therapy for Breast Cancer Rehabilitation

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### **Abstract:**

Our feminist perspective is one of empowerment for breast cancer survivors, and we believe that physical activity and exercise have the potential to shift the battle away from fear of living to living fully. In light of the psychosocial and cultural factors that influence the interpretation of the breast cancer experience, rehabilitation efforts have shifted from curing the disease to living with the disease, or survival. This shift is reflected in the selection of quality of life as the primary indicant of treatment efficacy. Interpreted from a feminist, empowerment perspective, evidence is presented demonstrating the positive influence of physical activity and exercise on quality of life in breast cancer survivors. We propose that physical activity has the potential to enhance perceptions of capabilities and control, thus empowering the individual to create her own reality. We conclude that physical exercise can be a safe and effective complementary and alternative method of therapy for breast cancer survivors.

KEYWORDS. Breast cancer, women, exercise, rehabilitation, feminist, alternative treatments

### **Article:**

#### INTRODUCTION

“My wake up call from my healer within came to me through my breasts; I think of it as my ‘Amazon awakening.’ And so our breasts become a cultural battleground where a war is waged between our fear of living fully and our fear of dying before we’ve ever lived fully” (Northrup, as cited in Weed, 1996; p. x). Our feminist perspective is one of empowerment for breast cancer survivors, and we believe that physical activity and exercise have the potential to shift the battle away from fear to living fully. When diagnosed with breast cancer, women are faced with a myriad of contemporary and socio-cultural ideologies. Breast cancer survivors are often viewed as victims and subjected to oppressive patriarchal ideologies, including negative stereotypes regarding a lack of femininity and sexuality. These negative stereotypes are grounded in social and cultural interpretations of the side effects resulting from the life saving medical treatments breast cancer survivors currently undergo. Breast cancer survivors routinely lose all or part of their breasts, experience hair loss, weight gain, and early onset menopause. These side effects present psychological, social, and cultural challenges for these women to maintain their feminine and sexual identities. This is particularly true within the Western medical and scientific traditions, which are inherently patriarchal (Keller, 1990). These traditional myopic perspectives of breast cancer stem from an isolated individual focus on disease that fail to consider women’s perceptions and the influence of her particular life experience.

It is our position that the phenomenon of breast cancer is significantly influenced by the social and cultural context in which it occurs (Nelson, 1996). As Audre Lorde (1980) eloquently states, “Each woman responds to the crisis that breast cancer brings to her life out of a whole pattern, which is the design of who she is and how her life has been lived. The weave of her everyday existence is the training ground for how she handles crisis” (p. 9). However, Western medical and scientific traditions have predominantly defined the breast cancer experience in terms of the physical body and biomedical outcomes (Friedenreich & Courneya, 1996; Thorne & Murray, 2000). Fortunately, social and cultural interpretations of the breast cancer phenomenon are evolving

(Glanz & Lerman, 1992). Most recently, health professionals have embraced a holistic mindset regarding the experience of breast cancer and have adopted biopsychosocial perspectives, as evidenced by the emergence of quality of life as the primary indicant of treatment efficacy. Quality of life can be defined as a multidimensional and complex perceptual concept including many biopsychosocial factors, such as functional ability, psychological functioning, social adjustment, and disease- and treatment-related symptoms (Andersen, Kiecolt-Glaser, & Glaser, 1999). As such, efforts to understand, explain, and treat the phenomenon of breast cancer now incorporate psychological, social, and cultural factors. Consequently, physical activity and exercise have been shown to influence many of these psychosocial factors, which may help move breast cancer rehabilitation from a victim, isolated medical model to a more feminist empowered approach.

In light of this myriad of psychosocial and cultural factors, there is no one stable and absolute reality regarding the breast cancer experience. The individual is an active agent in the construction of her reality, which is created mostly through historical and socio-cultural meanings (Hall, 1996). We base our perspective in social cognitive theory (Bandura, 1986), which posits that humans are active agents in their lives with the power to choose their own behavior and realities. Further, thoughts and actions result from a complex interaction between the individual, environment, and behavior, each of which are reciprocal, fluid, and evolving. Thus, the individual's perception of her constructed reality holds primary importance in determining her quality of life and, therefore, treatment outcome. This is particularly relevant to breast cancer in that individuals may choose to accept dominant patriarchal and socio-culturally constructed stereotypes, involving (non) feminine body-images, sexuality, breast reconstruction, and victimization (e.g., Clark, 1999; Thorne & Murray, 2000) or resist and form positive enabling experiences and environments. It is plausible to suggest that a feminist approach to physical activity may empower survivors with the ability to perceive and create positive, enabling realities.

Research suggests that physical activity and exercise are powerful moderators in the social cognitive model (e.g., Katula, McAuley, Mihalko, & Bane, 1998). For example, it has been demonstrated that even one bout of exercise can enhance women's self-efficacy (i.e., perceptions of their capabilities), the central construct within the social cognitive model (Katula et al., 1998). Furthermore, physical activity and exercise is uniquely situated to positively impact the functional, physical, psychological, and social challenges faced by breast cancer survivors (Courneya & Friedenreich, 1999). Specifically, mastery experiences gained via physical activity and exercise have been shown to positively influence self-perceptions of control and behavior (e.g., McAuley, 1992; Mihalko, McAuley & Bane, 1996). With an increased sense of control, breast cancer survivors may experience an enhanced sense of agency that can empower them to resist dominant patriarchal ideologies and create positive alternative realities as thrivers. Thus, it is important to systematically educate and encourage the increasing number of diverse breast cancer survivors about the benefits of physical activity and exercise in the recovery process.

The American Cancer Society (American Cancer Society, 2000) predicts that approximately 182,800 new cases of breast cancer will be diagnosed during 2001 in the United States, accounting for 30% of all cancer diagnoses in women. Thus, breast cancer is currently the number one diagnosed form of cancer in women. Breast cancer risk increases with age (Kimmick & Muss, 2000), and African American women experience breast cancer less overall than European Americans. However, researchers also report a higher incidence of breast cancer in younger African American women with an age crossover at approximately 50 years. This ultimately results in higher numbers among European Americans (Kerner, Trock, & Mandelblatt, 2000). Additionally, the American Cancer Society (2000) reports that breast cancer rates are lower among Latino and Asian women, with American Indian women experiencing the lowest rate of breast cancer. Furthermore, lesbians may exhibit an increased risk for breast cancer when compared to heterosexual women (Love, 2000).

Moreover, the American Cancer Society (2000) estimates that 41,200 deaths will result from breast cancer and women have a 3% lifetime risk of death from breast cancer. Breast cancer patients of all ages appear to fare similarly well if diagnosis is with localized or regional stages of breast cancer. However, older women are more likely to be diagnosed with metastatic cancer, and possess a higher mortality rate (Kerner, Trock, & Mandelblatt, 2000). Even with the lower incident rates of breast cancer among African American women, their

mortality rates are higher than European Americans (Dingnam, 2000; Greenlee, Hill-Harmon, Murray, & Thun, 2001; Kimmick & Muss, 2000). This constitutes breast cancer as the second largest cause of cancer death among women in the United States (National Cancer Institute, 1998). However, the survival rate of women diagnosed and treated for breast cancer is improving, especially with early detection (Harris, 2000).

Most women diagnosed with breast cancer can expect to live for long periods of time (Rowland & Massie, 2000). The American Cancer Society (2000) reports that the five-year relative survival rate is 96% for women diagnosed with localized breast cancer. The survival rates for women diagnosed with regional and distant metastases are 77% and 21%, respectively, but survival declines after five years (e.g., 10 years, 71%; 15 years, 57%). Improvements in early detection and treatments for breast cancer are responsible for the increased survival rates, and, combined with increased incidence, have resulted in eight million Americans living with a history of cancer (American Cancer Society, 1998). As the number of diverse breast cancer survivors escalates, cancer rehabilitation has become extremely important (Wingo, Tony, & Bolden, 1995) and research focus has shifted from curing the disease to living with the disease and its consequences (Makar, Cumming, Lees, Hundleby, Nabholtz, Kieren, Jenkins, Wentzel, Handman, & Cumming, 1997). Specifically, emphasis has been placed on the quality of life (QOL) concerns of cancer survivors (Bradley & Scharf, 1998; Fawzy, Fawzy, Arndt, & Pasnau, 1995).

It is imperative to understand that unlike treatments for diabetes or heart disease, treatments for cancer are more toxic and intensive (Rowland & Massie, 2000). Breast cancer treatments, such as surgery, chemotherapy, radiotherapy, and pharmaceutical therapy, often result in a host of deleterious side effects that impact several indices of quality of life. Common psychosocial side effects of breast cancer include depression, anxiety, stress, mood disturbances, decreased self-esteem, loss of a sense of control, marital and social withdrawal, poor body image, diminished femininity, self-deprecation, and sexual dysfunction (e.g., Glanz & Lerman, 1992; Penman, Bloom, & Fotopoulos, 1986; Psychological Aspects of Cancer Study Group, 1987; Segar, Katch, Roth, Weinstein, Portner, Glickman, Haslanger, & Wilkins, 1998). Physical and functional side effects of breast cancer include decreased cardiovascular function, diminished strength, decreased pulmonary function, loss of lean body mass, weight change, sleeping difficulty, fatigue, nausea, vomiting, hair loss, osteoporosis, and early onset menopause (e.g., Levine, Raczynski, & Carpenter, 1991; Love, Leventhal, Easterling, & Nerenz, 1989; Segar et al., 1998). Research suggests survivors experience persistent psychosocial distress a year or more after diagnosis (Vinokur, Threatt, Vinokur-Kaplan, & Stariano, 1990). Surprisingly, however, research examining the exact nature of breast cancer quality of life impact is inconsistent (Spencer, Lehman, & Love, 1999).

Some studies have failed to find significant differences between women with and without breast cancer. For example, a recent study compared body esteem in young women with and without breast cancer and found no significant differences (Bello & McIntire, 1995). Indeed, it has even been suggested that breast cancer survival may increase self-esteem and body image (Carpenter, 1997). Furthermore, studies have demonstrated inconsistencies between unidimensional, global, quantitative measures and multidimensional and interpretive process-oriented inquiry concerning breast cancer rehabilitation and quality of life indices, such as self-esteem (e.g., Dibble-Hope, 2000). Although quantitative studies often reveal no differences between breast cancer survivors and asymptomatic counterparts, studies employing qualitative methods indicate significant deleterious effects of breast cancer on quality of life. Thus, the exact nature of breast cancer impact is not well understood and, therefore, traditional rehabilitation methods have not sufficiently addressed the diverse and unique issues faced by breast cancer survivors.

#### EXERCISE AS COMPLEMENTARY THERAPY

In an effort to mitigate the side effects of cancer and enhance quality of life, many breast cancer patients seek the help of alternative and complementary treatments (VandeCreek, Rogers, & Lester, 1999). Alternative and complementary medical treatment methods have recently become widespread in Western society, which has traditionally embraced only allopathic (Western) medicine (Gevitz, 1996). The National Center for Complementary and Alternative Medicine (NCCAM; Alternative Medicine Report, 1992) classifies complementary and alternative therapies into seven categories: (a) diet and nutrition, (b) mind-body techniques,

(c) bioelectromagnetics, (d) traditional and folk remedies, (e) pharmacological and biological treatments, (f) manual healing methods, and (g) herbal medicine. Cassileth and Chapman (1996) report that complementary and alternative methods of treatment (CAM) have received unprecedented use and respectability in recent years. This popularity appears to stem from the demand for a more holistic approach to health care, capable of meeting the complex and dynamic biopsychosocial needs of clients. This seems to be especially true for chronic diseases and diseases involving particularly aggressive treatments, such as cancer. Most patients remain actively engaged in conventional medical therapies while employing the use of CAM of treatment (VandeCreek et al., 1999). Additionally, women from various racial and ethnic groups use CAM of treatment. Lee and colleagues (2000) interviewed Black, Hispanic, Chinese, and White breast cancer survivors and found that half of the women in the study used at least one type of CAM of therapy and one-third used two types of CAM of treatment. Currently, there are a number of CAM of therapy that successfully help individuals cope with breast cancer. These CAM include relaxation training, meditation, social support groups, music therapy, and exercise (e.g., Fawzy et al., 1995).

Physical exercise appears to be particularly suited to address issues faced by breast cancer survivors. More specifically, research suggests that physical activity and exercise reduce a number of negative psychosocial health outcomes, such as depression, anxiety, and stress, and enhance positive outcomes, such as self-esteem, self-efficacy, body image, social physique anxiety, and cognitive function (e.g., Landers & Petruzello, 1994; McAuley, 1994). More importantly, physical activity has been shown to enhance the rehabilitation of individuals with chronic diseases, such as hypertension, cardiovascular disease, diabetes, pulmonary disease, and cancer (e.g., Goldbergh & Elliot, 1994). A plethora of anecdotal reports from clinicians, physical therapists, nurses, and cancer patients themselves exist regarding the benefits of physical activity following cancer diagnosis (e.g., Johnson & Kelly, 1990; Molinaro, Kleinfeld, & Lebad, 1986).

With respect to breast cancer survivors, physical activity and exercise has been demonstrated as safe and beneficial during and post allopathic adjuvant therapies (e.g., chemotherapy & radiotherapy). Approximately 26% of the general population use exercise as a CAM of medical treatment (Eisenberg, Kessler, Foster, Norlock, Calkins, & Delbanco, 1993). Relative to breast cancer patients, 76% indicate an interest in exercise as a CAM of treatment, and 38% actually use it. This makes exercise the second most popular complementary and alternative therapy sought and used by breast cancer outpatients (VandeCreek et al., 1999).

A number of studies have demonstrated the effectiveness of various modes of exercise for improving various aspects of quality of life in breast cancer survivors. Several studies have demonstrated that women participating in exercise, such as cycling, walking, and stretching programs (over 2-6 months), while receiving chemotherapy have shown improvements in anxiety, depression, body-image, stress, fatigue, nausea, vomiting, cardiovascular fitness, lean body mass, and weight fluctuation (Dimeo, Stieglitz, Novelli-Fischer, Fetscher, & Keul, 1999; MacVicar & Winningham, 1986; MacVicar, Winningham, & Nickel, 1989; Mock, Burke, Sheehan, Creaton, Winningham, McKenney-Tedder, Schwager, & Lievman, 1994; Winningham, MacVicar, Bondoc, Anderson, & Minton, 1989). Additionally, women have demonstrated improved anxiety, fatigue, physical functioning, and sleeping patterns as a result of participating in walking programs during radiation treatment (Mock, Dow, Meares, Grimm, Dienmann, Haisfield-Wolfe, Quitasol, Mitchell, Chakravarthy, & Gage, 1997). This would suggest that exercise is a safe and potentially invaluable CAM of treatment for breast cancer survivors during traditional adjuvant therapy.

Additionally, women who were post-surgery, chemotherapy, and radiation therapy that participated in a combination of strength training, aquatics, and aerobic exercises (once per week for one month) felt they had gained sufficient physical training, strength, and fighting spirit (Berglund, Bolund, Gustafsson, & Sjoden, 1993). Women participating in Authentic Movement therapy (i.e., dance therapy) who were six months to six years post treatment exhibited improvement in mood (vigor), distress, body image, self-esteem, fatigue, and somatization. They also reported strongly self-perceived improvements in worry, strength, ease, hope, and social support (Dibble-Hope, 2000). Furthermore, studies have demonstrated that women diagnosed within the past year for breast cancer and who exercised generally report better mood (less confusion and more vigor),

self-efficacy, self-esteem, and less fatigue than their sedentary cohorts (Baldwin & Courneya, 1997; Carpenter, 1997; Friedenreich & Courneya, 1996; Graydon, Bubela, Irvine, & Vincent, 1995; Pinto & Maruyama, 1999; Young-McCaughan & Sexton, 1991). In fact, as noted previously, Carpenter (1997) suggests that the breast cancer experience may have positive effects on self-esteem and that one of the potential mediators is exercise participation. Thus, exercise participation provides the potential for enhancing psychosocial and physical indices of quality of life empowering breast cancer survivors during and post-treatment.

## CONCLUSION

Although we are just beginning to address the quality of life issues faced by breast cancer survivors, physical activity appears to be one form of CAM that may be uniquely suited to address the unique issues faced by survivors. Studies suggest that women diagnosed with breast cancer may exercise safely while under undergoing chemotherapy and radiotherapy. It also appears that exercise is a safe and viable option for these women after high-dose chemotherapy and bone marrow transplants. Furthermore, exercise can be beneficial for many years after diagnosis and throughout the use of pharmaceutical therapy to attenuate the psychosocial and physical sequelae that remain or reoccur for breast cancer survivors. Moreover, physical activity and exercise can be a cost efficient and non-invasive part of breast cancer recovery (Pinto & Maruyama, 1999).

However, most of the women participating in exercise programs following breast cancer diagnosis are self-selected participants (e.g., Baldwin & Courneya, 1997; Carpenter, 1997; Friedenreich & Courneya, 1996; MacVicar et al., 1989; Mock et al., 1994). In other words, they have not been systematically educated and encouraged to participate in physical activity. Indeed, typical post treatment exercise recommendations involve a one-time demonstration of exercises specifically designed to physically rehabilitate damaged muscle tissue, with no attention to quality of life deficits. With the emergence of nationally recognized events involving physical exercise, such as the American Cancer Society's Relay for Life and Reach to Recovery programs, the Susan G. Komen Walk/Runs, and the YMCA Encore programs, the opportunities for women to participate in exercise programs are growing. However, despite documented interest in CAM and exercise, it appears most of these women are still left to seek, discover, and participate in these activities on their own.

Therapists and health professionals may be an important resource about physical activity for breast cancer survivors by providing education and awareness, broader exercise definitions, and follow-up. Therapists can become familiar with nationally recognized physical activity programs that are offered specifically for breast cancer survivors, such as the aforementioned American Cancer Society's Reach to Recovery program and Relay for Life events, the Susan G. Komen walk/run, and the YMCA's Encore program. Additionally, many local hospitals and cancer centers are beginning to offer physical exercise programs for breast cancer survivors. Furthermore, it is imperative that therapists and social workers familiarize themselves with the safety guidelines for participation in physical activity developed by the American College of Sports Medicine and the Physical Therapy Association. With this information, therapists can empower clients and help to raise awareness concerning the benefits of exercise for breast cancer survivors. Therapists can also assist clients in creating a broad definition of exercise that incorporates many forms of physical activity. Most importantly, therapists can encourage breast cancer survivors to define physical activity and exercise in a manner that is consistent with their individual social and cultural identity. For some women, this might involve participating in traditional forms of exercise, such as walking, jogging, swimming, and weight training. Other breast cancer survivors may find it more appealing to participate in alternative forms of physical activity, such as yoga, tai chi, chi kung, or dance therapy. Furthermore, breast cancer survivors may realize the value of adopting a physically active lifestyle, which may include activities such as walking the dog, gardening, and moderate to vigorous household activities. Lastly, therapists can provide a systematic follow-up for breast cancer survivors regarding physical activity and exercise participation. This could be done in several ways, such as individual appointment sessions, support group meetings, journaling or telephone/electronic contact.

It should be noted that therapists must be acutely aware of the potential dangers and limitations inherent in prescribing physical activity and exercise for breast cancer survivors. For example, although evidence is scarce, it has been suggested that physical exercise can increase one's risk for lymphadema, a pooling of lymphatic

fluids in the arm that can be quite harmful (Pinto & Maruyama, 1999). Additionally, the optimal mode, frequency, intensity, and duration of exercise required to maximize quality of life benefits in breast cancer survivors is not known. Finally, breast cancer survivors feeling disconnected from their bodies may be reluctant if not averse to performing physical activity in the face of the social evaluation inherent in contemporary and traditional exercise settings. Therefore, motivation and exercise adherence will most likely be a barrier. However, these barriers can be overcome within a feminist empowerment approach to exercise and breast cancer recovery.

In summary, physical activity and exercise can be a safe complementary therapy for breast cancer survivors during and post adjuvant therapy. Moreover, a lifestyle approach to exercise participation with consideration of each woman's unique cultural and social situation can facilitate a sense of agency in women diagnosed with breast cancer. Active women gain competence and control, and become confident and empowered to move beyond oppressive, patriarchal ideologies regarding the breast cancer experience. This empowerment allows them to create alternative realities that enable them to thrive throughout the duration of their illness and recovery resulting in a full, active life. In closing, "Breast cancer is a dance of initiation, for no woman who dances with cancer is ever the same. She has visited the source and tasted the waters of life and death, savored the sweetness and the sharpness of her own mortality, and tasted her desire to survive" (Weed, 1996; p. xiii).

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