GAVIN PUBLISHERS

Yoga practice & Physiotherapy

Wonders KY and Stout B, Yoga Practice Phys Ther: J115.

Review Article

DOI: 10.29011/YPTR-115. 000015

Potential Benefits of Yoga Interventions for Breast Cancer Survivors

Karen Y Wonders[1*] and Brittany Stout[2]

[1]Department of Kinesiology and Health, Wright State University, Dayton OH, USA

[2]Maple Tree Cancer Alliance, Dayton OH, USA

Corresponding author: Karen Y Wonders, Wright State University, 301 Nutter Center, 3640 Colonel Glenn Hwy, Beavercreek OH, 45435, USA, Tel: +93777-52637, E-mail: Karen.wonders@wright.edu

Citation: Wonders KY and Stout B (2017) Potential Benefits of Yoga Interventions for Breast Cancer Survivors. Yoga Practice Phys Ther: J115. DOI: 10.29011/YPTR-115. 000015

Received date: 11 January, 2017; **Accepted da**te: 19 January, 2017; **Published date:** 24 January, 2017

Abstract

Exercise interventions in women with breast cancer have previously focused around the common weight-bearing limitations in the upper body and affected limb. Along with physical impairments, many breast cancer survivors report diminished quality of life even years after treatment completion. This could be due in part to their physical limitations creating difficulty in activities of daily living, but could also be attributed to their increased rates of depression and mental weakness. Yoga is a widely practiced health and relaxation intervention that focuses on breath control, simple meditation, and the adoption of specific body postures – all found to be diminished in breast cancer survivors. This review explores the potential benefits that yoga could have in regards to breast cancer survivors and, more specifically, breast cancer related lymph edema (BCRL).

Introduction

For women in the United States, breast cancer is one of the most prominent cancer diagnoses – with around 247,000 newly diagnosed cases in 2016 alone (BC statistics). These rates have been slowly declining since the early 2000s with the use of safer, more efficient treatment modalities. Along with declining rates of breast cancer diagnoses, the rate of 5-year survivors is on the incline. The most common cancer treatments include chemotherapy, radiation, and hormone replacement therapy. These particular modes of treatment are most often utilized due to their ability to kill or damage cancer cells, but are typically accompanied by very debilitating side effects.

Side effects of cancer treatment can include fatigue, nausea, cardio toxicity, and decreased quality of life. The most common side effect seen in women with breast cancer as well as survivors is breast cancer related lymphedema (BCRL). Breast cancer related lymphedema affects upwards of 20% of women who are currently receiving cancer treatment and even greater for survivors [1]. BCRL ranks high on the list of concerns of survivors, as it is chronic, progressive, and incurable and requires life-long management. Progressive signs and symptoms of lymphedema include limb swelling and discomfort, leading to considerable impairments in limb function and ultimately, decrease in overall quality of life (NEJM). Other, more specific side effects of this population can include faulty body posture, changes in the biomechanics of the shoulder girdle, and reduced range of motion and strength in the affected limb [2].

These specific side effects for women with BCRL can lead to a loss of symmetry between both sides and difficulty handling activities of daily living including household chores and driving [1]. Currently, BCRL has been shown to be managed by supervised, low intensity exercise interventions, compression garments, ultrasound therapy, and laser treatments [3]. Little research, however, looks into more holistic approaches to breast cancer related lymph edema to combat these life-long effects.

Gaps in Current Treatment Modalities

Most management techniques of side effects brought on by cancer treatments fit into a generalized group including all cancer types. However, women with breast cancer face very specific challenges that can require life-long management. A majority of symptoms and side effects of cancer treatment span for up to 5 years after treatment completion. Little research has focused on exercise interventions for maintenance of this long lasting side effect. Seeing as many BCRL women have limitations in upper body weight-bearing exercises – different, more holistic approaches should be researched as an additional focus.

There has been little research surrounding the benefits of

mental clarity and meditation, but what does exist is promising. Many studies have shown decreases in overall quality of life in cancer survivors spanning from physical to mental and even spiritual impairments [4,5]. Seeing as BCRL may require lifelong management and lead to several upper body limitations, breast cancer survivors may see an even greater and longer lasting decrease in quality of life. Meditation has been shown to improve mental strength, information processing, and can make individuals stronger against pain (liveanddare). A study performed at the University of Montreal exposed Zen masters and comparable non-practitioners to equal degrees of painful heat while measuring brain activity. The researchers found that the Zen meditation practitioners reported less pain even though their brain activity was receiving the same amount of pain stimulation as the non-practitioner group. Attributing these findings to cancer treatments, many reported benefits of meditation could assist them tremendously in many areas of treatment and survivorship. Yoga has the potential benefit to provide improvements in upper body strength, posture, and mobility as well as provide mental health benefits for improved quality of life.

Potential Benefits of Yoga for Breast Cancer

Previously, women with BCRL were discouraged from participating in exercise, as there were concerns that exercise would increase the risk of lymph edema. More recently, however, there has been growing evidence to support more holistic approaches to treatment and maintenance of lymph edema in breast cancer survivors. A study conducted by Hayes et al concluded that exercise did not lead to an increase in severity of lymph edema in breast cancer survivors after participating in a moderate-intensity exercise program (Hayes). Numerous other studies have also found exercise to include increased strength in the affected limb as well as improvements in quality of life [4,5]. Keeping a holistic approach in mind, other areas of exercise and meditation interventions, including yoga, should be researched.

Yoga is a holistic and cohesive system that consists of breathing (pranayama), postures (asana), meditation and relaxation [1]. It aims to create balance by merging the physical, mental and emotional self. Emerging research shows benefits of slow breathing, meditation and relaxation in relation to BCRL. The physical movements and practice of slow breathing have been linked to principles of lymphatic clearing and reduction of swelling and infections such as flariasis [6]. Breathing and relaxation techniques have also been shown to improve psychosocial functioning of women during and after breast cancer treatment [1].

In regards to posture and shoulder range of motion, yoga has been shown to aide in the correction and repair of upper body impairments [1]. One study found a significant improvement in postural parameters in the yoga intervention group and while not significant, found improvements in strength and shoulder abduction in both arms [1]. Another study by Kaji et al found that pelvic stability while standing was improved following core stabilization exercises during yoga. Many other studies have found improvements in strength parameters of the upper body [4,1]. In a study conducted by Mandan Mohan et al, handgrip strength was significantly improved in women with breast cancer in the yoga intervention group. Yoga interventions typically have non-weight bearing in the arms, limiting the inclusion of certain strength poses for the upper body. However, yoga has the unique ability to target stabilization of the scapular/shoulder complex in most other actions and poses (Mandan Mohan).

Conclusions

Many currently studied exercise interventions do their part of providing necessary improvements upper body functioning on a physical level. However, the potential to improve these limitations to an even greater degree is endless. Taking a holistic approach to all areas of health (physical/nutritional, mental, and emotional) offers the opportunity to build strength in more than one dimension. Recent research has mainly taken into account physical side effects and limitations associated with breast cancer. Exploring avenues that encourage mental strength and the body's natural capacity of healing through deep breathing and meditation could take survivorship to the next level. Yoga is one of those avenues that has the potential to provide physical strengths and adaptations as well as improvements in mental parameters through meditation practice.

References

1. Loudon A, Barnett T, Piller N, Immink MA, Visentin D, et al.. (2016) The effects of yoga on shoulder and spinal actions for women with breast cancer-related lymphoedema of the arm: A randomised controlled pilot study. BMC Complementary and Alternative Medicine 16.
2. Malicka I, Hanuszkiewicz J, Stefanska M, Barczyk K, Wozniewski M, et al. (2010) Body posture of women after breast cancer treatment. Ortop Traumatol Rehabil. 12: 353–361.
3. Thomas-MacLean R., Miedema B. Tatemichi S (2005) Breast Cancer Related Lymphedema. Canadian Family Physician-February 80: 246-247.
4. Tidhar D, Katz-Leurer M (2010) Aqua lymphatic therapy in women who suffer from breast cancer treatment-related lymphedema: a randomized controlled study. Support Care Cancer 18: 383-392.
5. Schmitz KH, Ahmed RL, Troxel AB, Cheville A, Smith R et al. (2009) Weight-lifting in women with breast cancer-related lymph edema. New Eng J Med 361: 664-673.
6. Narahari S, Ryan TJ, Bose KS, Prasanna KS, Aggithaya GM, et al. (2011) Integrating modern dermatology and Ayurveda in the treatment of vitiligo and lymphedema in India. Int J Dermatol 50: 310-334.

7. Montazeri A, Vahdaninia M, Harirchi I, Ebrahimi M, Khaleghi F (2008) Quality of life in patients with breast cancer before and after diagnosis: an eighteen months follow-up study. BMC Cancer 8.

8. Shephard, R (2010) Weight Lifting in Women with Breast-Cancer–Related Lymphedema. Yearbook of Sports Medicine 269-271.

9. Stamatakos M, Stefanaki C, Kontzoglou K (2011) Erratum to: Lymphedema and breast cancer: a review of the literature. Breast Cancer 18: 181-181.

10. Zeidan F, Martucci KT, Kraft RA, Gordon NS, Mchaffie JG, et al. (2011) Brain Mechanisms Supporting the Modulation of Pain by Mindfulness Meditation. Journal of Neuroscience 3: 5540-5548.

11. U.S. Breast Cancer Statistics