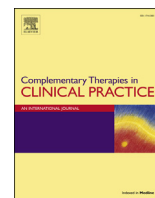




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The effects of yoga on the quality of life and depression in elderly breast cancer patients



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A B S T R A C T

Keywords:
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Breast cancer
Yoga
Quality of life

Objective: The aim of the study was to investigate the effects of yoga on the quality of life in patients with cancer.

Design: Twenty patients (10 were in yoga program, 10 were in exercise group) between 65 and 70 years of age under going treatment for cancer were included in the study. Physical characteristics of the patients were recorded and general physiotherapy assessments performed. Eight sessions of a classical yoga program including warming and breathing exercises, asanas, relaxation in supine position, and meditation and 8 sessions of classical exercise program were applied to participants.

Main outcome measures: Before and after yoga and exercise program, quality of life assessments for the patients were conducted using the Nottingham Health Profile (NHP). Patients' depression levels were assessed using the Beck Depression Inventory. Their level of pain, fatigue and sleep quality was evaluated using the visual analog scale (VAS).

Results: It was found that all patients' quality of life scores after the yoga and exercise program were better than scores obtained before the yoga and exercise program ($p < 0.05$). When the post treatment data of the groups were compared in terms of NHP and subcategories, ER, SI, S, PA and the total scores of NHP were found significantly different in favor of Group I ($p < 0.05$). However EL and P scores of the NHP were not different between the groups ($p > 0.05$). When the groups were compared in terms of depression, pain, fatigue, and sleep quality, statistically significant differences were found in all parameters between pre and post treatment values for both groups ($p < 0.05$). When the post-treatment values of the groups were compared, fatigue and sleep quality were found statistically different between the groups in favor of Group I ($p < 0.05$).

Conclusions: It can be concluded that yoga is valuable in helping to diminish depression, pain, fatigue and helps cancer patients to perform daily and routine activities, and increases the quality of life in elderly patients with breast cancer.

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1. Introduction

People aged 65 years and older are the fastest growing age group in the world. Among the elderly population, cancer is one of the leading causes of death. Elderly oncology has developed since most cancer cases are diagnosed in elderly patients and the majority of cancer deaths occur in elderly patients. Little is known on how to best treat elderly patients with cancer and deal with treatment side effects and palliative care. Most recommendations have focused on the need for clinical trials specifically for the elderly with cancer.

The focus of the elderly oncologic rehabilitation team has been to integrate elderly rehabilitation into the care of the elderly cancer patient and find new therapy approaches to prevent chemotherapy toxicity, and increase tolerance. Understanding the importance of supportive management during antineoplastic treatment and developing an intentional approach to palliative care issues (which are an important part of treating elderly patients with cancer) will help patients maintain quality of life [1–3].

Yoga is also one of the most widely used mindbody therapies among cancer patients, especially breast cancer patients [1–4]. Breast cancer patients often use complementary and alternative medicine modalities, including yoga, in conjunction with conventional medicine to reduce symptoms related to cancer and its treatment and to improve quality of life [5].

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Research studies evaluating the efficacy of yoga for reducing cancer-related symptoms have reported promising findings, including improvements in quality of life, social functioning, as well as spiritual and emotional well-being [6–8]. Studies have found that yoga may reduce fatigue, pain, nausea, mood disturbance, depression, and anxiety in early-stage of breast cancer patients [9,10]; increase invigoration, acceptance, and relaxation in women with metastatic breast cancer [11]; and help decrease stress and pain while increasing energy, sleep, and sense of well-being in a variety of patients with cancer [12–16].

Despite its potential benefits and popularity among breast cancer patients, little is known about the characteristics of yoga users within this population. Although there are a number of studies associated with the use of complementary and alternative medicine among patients with breast cancer, to the best of our knowledge there are no studies so far comparing the effectiveness of yoga use in this population. We conducted this study to determine whether was more effective in increasing the quality of life in elderly patients with breast cancer when compared with patients who received routine exercise cancer diagnosis in a population of elderly women with stage I-II (A/B) breast cancer who finished primary cancer treatment.

2. Materials and methods

The present study was performed 20 female patients whose age was between 65 and 70 years. Ten subjects were referred to the yoga program (Group I) and 10 subjects were attended to the exercise program (Group II) as part of preventive/conservative rehabilitation at the Hacettepe University, Faculty of Health Sciences, Department of Physiotherapy and Rehabilitation. Patients received phase I/II (A/B) chemotherapy, at least 6 months had passed since chemotherapy, and continued medically supervised during the study were included in the study. Patients who have not being under doctor's control, risk of infection, or actively receiving chemotherapy or radiotherapy treatment, who have cognitive impairment, patients with extreme mobility issues, currently participating in yoga or any other exercise program and patients with metastatic disease were excluded. The subjects were randomized into the group I or group II.

The participants were divided in to 2 groups according to the order of arrival. This study was approved by Hacettepe University Ethic Committee and informed-consent forms were obtained from the participants.

Participants' age, weight, height, and phase and date of onset of breast cancer were recorded. A general physiotherapy evaluation was carried out to determine the range of motion, muscular strength, edema, pain, and posture especially within upper and lower extremity of the body.

Patients in each groups accomplished their program 8 sessions that were applied to the participants as twice a week at the Department of Physiotherapy and Rehabilitation.

The one physiotherapist who was yoga teacher provided information about a classic yoga program and prepared patients for two sessions before the main yoga program.

Each session lasted 1 h per week for eight weeks and included warm-up and breathing exercises (15 min), asanas (15 min), relaxation and meditation in supine position (30 min). Asanas were selected based on the patients' needs and ability in relation to their muscular strength, and joint limitations (Group I). Sessions included asanas (poses) in the seated, supine, and standing positions; pranayama (breathing); and meditation. Class was designed by a certified/registered yoga teachers who had experiences teaching older adults. The program was reviewed by two yoga teachers. The yoga intervention program was specifically for elder adults with breast

cancer. Asanas were selected based on the patients' needs and ability in relation to their muscular strength, and articular limitations. To reduce the risk of injury, to avoid discomfort and to minimize risk of overstretching, blankets, chairs, blocks were used. After pranayama, a 10-min warm-up was performed. Warm-up activities included seated shoulder circles, wrist rolls, standing heel and toe raises and heel walking. Yoga postures used in the program included tadasana (mountain pose), virabhadrasana, trikonoasana (triangle pose), vrikshasana, ardha kati chakrasana, trikonasana, salabasana, sasankasana, and surya namaskar (modified sun salutations using a chair), ended each session with relaxation in shavasana.

The one physiotherapist also gave information about a physical exercises and prepared participants for two sessions before the main exercises program. Each session lasted 1 h and included warm-up and breathing exercises (15 min), physical exercises (40 min) and cool-down exercises (5 min). Exercises were also selected based on the participants' needs and ability in relation to their muscular strength, and joint limitations (Group II).

Quality of life, depression, pain, fatigue and sleep quality were assessed before and after the training program. The quality of life of participants was determined using the Turkish version of the Nottingham Health Profile (NHP). The measurement is composed of six different subcategories that tested physical activity (PA), energy level (EL), pain (P), social isolation (SI), sleep (S) and emotional reactions (ER). It is necessary to answer all questions saying "yes" or "no". For evaluation quality of life using the NHP, the scores of each subcategory and total scores of them were calculated. Each subcategory had different statement-scores and these statements are randomized in the measurement. The scores are between 0 and 100 for each subcategory. Since there was no threshold for the measurement, each subcategory was assessed within its own limits. Therefore, low scores meant low effect of the complaint/case whereas high scores meant high influence of the complaint/case [17,18].

Participants' emotional levels were determined using the Turkish version of the Beck Depression Inventory (BDI). The BDI, is a 21-question multiple-choice self-report inventory, one of the most widely used instruments for measuring the severity of depression. Its development marked a shift among health care professionals, who had until then viewed depression from a psychodynamic perspective, instead of it being rooted in the patient's own thoughts. The BDI contains 21 questions, each answer being scored on a scale value of 0–3. Higher total scores indicate more severe depressive symptoms [19,20].

Severity of pain, fatigue and sleep quality were measured using the visual analog scale (VAS) (0 cm – not satisfied at all; 10 cm – very satisfied). VAS was administered after the first session and also at the end of the study.

3. Results

It was identified that there was no difference in terms of demographic characteristics between the groups (Table 1).

Table 1
Demographic features of the study population.

Demographic features	Group I (n = 10) mean ± SD	Group II (n = 10) mean ± SD	z	p
Age (years)	68.58 ± 6.17	68.88 ± 2.93	−0.108	0.914
Height (m)	1.64 ± 0.06	1.64 ± 0.08	−0.071	0.943
Weight (kg)	60.66 ± 6.84	59.88 ± 9.94	−0.791	0.429
BMI (kg/m ²)	22.51 ± 2.11	22.09 ± 2.71	−0.249	0.803

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