The effects of therapeutic yoga in women with cancer undergoing radiation therapy

Kyung Hee Lee¹, Woong Sub Koom², Sanghee Kim³, Kyunghwa Lee⁴, Jina Roh⁵, Nayoung Kim⁵, Yong Bae Kim²

¹ Korea Natural-Therapy Yoga Association & CHA University-Bundang Campus

³ Yonsei University College of Nursing, Mo-Im Kim Nursing Research Institute

⁵ Yonsei University Health System, Yonsei Cancer Center

² Yonsei University College of Medicine, Department of Radiation Oncology

⁴ Yonsei University Graduate School, Department of Nursing

Introduction

Despite of similar cancer incidence in both males and females, the numbers of cancer deaths of females were smaller than males in 2012, Korea. Moreover, five-year relative survival rate of females was higher than males. These statistics indicate the necessity for improve quality of life in terms of survivorship in women with cancer. Yoga is well known for its positive effects on the quality of life, symptoms, and functions of patients with cancer. Although this finding has been demonstrated in Western populations, a lack of evidence exists for female patients undergoing radiation therapy in Korea.

Purpose

The purpose of this study was to determine the effects of yoga on anxiety, depression, quality of life, spiritual health, vital signs, and body composition in female cancer patients.

Method

- **Design:** one-group, experimental, simple, interrupted time-series design (Figure 1).
- **Participants:** Twenty seven women with cancer undergoing radiotherapy
- **Intervention:** A total of eight Yoga sessions were provided twice a week at the Yonsei Cancer Center, Cancer Information Center. Each yoga session lasted for 60-90 minutes and involved three to six patients (Table 1).
- **Data collection:** Self-reported questionnaires(FACT-G, HADS, Spiritual Health Inventory), vital signs(BT, PR, BP), and body compositions were measured before and after the intervention and at four-week follow-up.

Figure 1. Study design

Table 1. Therapeutic yoga program

Session	Contents
1	Neck and shoulder pain–focused natural-therapy yoga, asana, and pranayamic breathing meditation
2	Chest and back pain–focused natural-therapy yoga, asana, pranayamic breathing, and chakra energy meditation
3	Lower back and pelvic pain–focused natural-therapy yoga, asana, pranayamic breathing, and chakra energy meditation
4	Hip and knee pain–focused natural-therapy yoga, asana, guided mental imagery, and mantra
5	Natural-therapy yoga, asana for posture correction, mental imagery, visualization, and mantra
6	Natural-therapy yoga, asana for posture correction, mental imagery as a relaxation technique in tranquil natural scenes, and mantra
7	Natural-therapy yoga, asana for posture correction, mental imagery as a relaxation technique in internal body images, and mantra
8	Natural-therapy yoga, asana for posture correction, color therapy, and mantra

Results

Table 2. Characteristics of the study participants

		Mean±SD	n(%)
Demographic characteristics			
Age		53.59±8.91	
Education ^a	≤High school		15(55.6)
	>High school		12(44.4)
Employment status	Employed		14(51.9)
	Unemployed		13(48.1)
Marital status	Married		24(88.9)
	Unmarried		3(11.1)
Religion	Yes		18(66.7)
	No		9(33.3)
Experience of mind and body therapy	Yes		18(66.7)
	No		9(33.3)
Disease-related characteristics			
Types of cancer	Breast cancer		16(59.3)
	Rectal cancer		8(29.6)
	Melanoma		1(3.7)
	Osteosarcoma		1(3.7)
	Anal cancer		1(3.7)
Length of diagnosis (month)		4.11±2.82	
Stage of cancer	Stage 0		4(14.8)
	Stage I		6(22.2)
	Stage II		10(37.0)
	Stage III		5(18.5)
	Stage IV		2(7.4)
	RT only		3(11.1)
Current treatment	Combined		24(88.9)
	Yes		7(25.9)
Comorbidity	No		20(74.1)

Overall, body composition did not demonstrate any change. Other than diastolic blood pressure, none of the vital signs changed significantly. Diastolic pressure did demonstrate a significant decrease ($F=8.06$, $p=.002$).

Conclusion

Based on these results, a continuous therapeutic yoga intervention should be considered to improve physical and psychological function in patients undergoing radiation therapy. Moreover, continuous research should be concurrently organized to determine the exact dose and behavioral outcome indicators of the effects of yoga.