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Can Pilates Exercises with Standard Physiotherapy Benefit Breast Cancer Patients with Lymphoedema?

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Introduction

Pilates focuses on breathing and core muscle strengthening which subsequently may improve spine flexibility, posture and self-awareness. Its effect on lymphoedema is not fully understood with limited studies on the area. Diaphragmatic breathing may increase the pumping of the lymphatic system and thus decrease swelling. It can also serve as an alternative approach for stretching and general fitness.

Objectives

To analyze the effect of Pilates with standard physiotherapy on patients of breast cancer with lymphoedema.

Methodology

Patients diagnosed as breast cancer with lymphoedema and attended physiotherapy (from March 2015 to January 2016) were recruited for Pilates class. The inclusion criteria were 1) willingness to join the class, 2) unilateral involvement and 3) being able to follow exercise instruction. Those with active metastasis, recent fracture, infection, cellulitis, previous shoulder injury, acute back pain or untreated psychiatric illness were excluded. Physical outcomes were assessed at baseline and after the intervention for the following parameters: 1) shoulder flexion range, 2) shoulder abduction range, 3) lymphoedema (assessed by calculation of the involved arm volume with arm circumference measurement) and 4) Functional Assessment Cancer Therapy – Breast (Chinese Version) (FACT-B) questionnaire. Overall satisfaction rating was also recorded post intervention. After education class on self-care, postural, shoulder mobilization exercises and lymphatic massage, a two-month structured Pilates mat class involving trunk, upper and lower limbs for four sessions was implemented. The subjects were instructed to perform daily home massage and exercises.

Result

From March 2015 to January 2016, total 19 patients were treated. The age range from 42 to 72 (mean 58.7). 1) The mean shoulder flexion range increased from 143.4

degree to 155.8 degree ($p < 0.001$; paired t-test). 2) The mean shoulder abduction range increased from 138.4 degree to 152.6 degree ($p < 0.001$; paired t-test). 3) The mean arm volume decreased from 2200.3 cm³ to 2116.0 cm³ ($p < 0.05$; paired t-test). 4) The mean FACT-B score increased from 35.1 to 38.5 ($p < 0.001$; paired t-test). There was positive feedback on the post-treatment overall satisfactory rating with mean score of 9.0. Conclusions: The inclusion of Pilates exercise with standard physiotherapy increased shoulder flexion and abduction range, decreased arm swelling and improved quality of life.