

The Effects of a Yoga Training Program with Fit Ball on Physical Fitness in
Overweight or Obese Women

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Abstract

Objective: The objective of this study was to determine the effects of Yoga training program with fit ball on physical fitness in overweight or obese women.

Methods: Thirty two participants who were obese women (BMI level of 23.0-29.9 kg/m²), aged 30-45 years were recruited in this study. The duration of study was 24 weeks which were divided into 2 phases. Firstly, the 1st week-8th week was a pre-training phase. The participants did not train with Yoga training program with fit ball program. The intervention was applied at the 9th week to the 16th week which Yoga training program with fit ball was performed 60 minutes per day and 3 days a week. The participants performed the training program with a professional trainer in this phase. During the 17th-24th week, the participants were trained with DVD at home. After that physical fitness, including flexibility, balance, muscular strength and muscular endurance were measured. The data were collected four times; with a total of 60 minutes from 5 p.m. to 6 p.m. Test 1 (Pre-test) was done in the 1st week. Test 2 (Post-test1) was conducted after the 8th week. Test 3 (Post-test2) after was arranged after the 16th week and Test 4 (Post-test3) was administered after the 24th week. All of the participants were tested with five tests: sit and reach test, stork stand, balance and dynamic balance, back and leg dynamometer and sit-ups. Sit-ups completed in 30 seconds. All data were analyzed by one way ANOVA with repeated measures. The differences of scores were tested by F-test. When the differences were found, LSD would be employed to test the difference of each pair with statistical significance at .05 level ($p < 0.05$).
Main outcome measures: The physical fitness; flexibility, balance, muscular strength and muscular endurance were tested.

Results: After training with Yoga training program with fit ball in the 16th week and the 24th week, physical fitness in each aspect increased with statistical significance. The flexibility increased the most as of 4.5 cm (11.41±6.02, 11.84±6.40, 15.47±5.63 and 15.91±5.53 cm, respectively, $p=0.001$ *). The maximum time of balance was 2.33 seconds (static balance: 2.85±1.23, 2.97±1.44, 4.48±2.26 and 5.18±2.39 seconds, respectively, $p=0.001$ *). The dynamic balance increased the highest at 8.1 cm (87.25±7.85, 86.84±6.90, 94.16±7.75 and 94.94±8.26 cm, respectively, $p=0.001$ *). The muscle strength increased the highest at 23.85 kg (70.23±11.62, 69.71±10.30, 91.32±12.41 and 93.56±14.51 kg, respectively, $p=0.001$ *). The muscle endurance increased the highest as of 4.37 times (10.38±5.42, 10.78±5.55, 13.59±4.87 and 14.75±4.79 times, respectively $p=0.001$ *)



Conclusions: The results of this study indicated that Yoga training program with fit ball can be an alternative for health care for people who cannot jump or patients with bone diseases as well as overweight or obese women. Yoga training program with fit ball can enhance physical fitness and increase flexibility. The results of the 8th week and the 16th week of Yoga training program with fit ball provided enhancement effect on physical fitness and overall health.

Keywords: Yoga, fit ball, physical fitness, overweight or obese