Purpose: The purpose of this study was to evaluate FFM and RMR changes in women after a 12 week RT or COM program.

Methods: Eighteen women aged 36-61 were randomly assigned to a RT or COM group, with training occurring three times per week. Both groups participated in resistance workouts which included 30 min of upper and lower body exercises where fatigue occurred between 8-12 repetitions. The COM group then participated in 30 min of moderate intensity cardiovascular exercise during each training session. Pre- and post-test RMR data was collected in a fasted state, following 30 min of rest, for a minimum of 20 min. FFM was calculated by subtracting fat mass from total body mass, where fat mass was derived by multiplying total body mass by percent body fat measured via the Jackson-Pollock skinfold technique. Two-factor (group x time) repeated measures analysis of variance (ANOVA) was used to evaluate group differences and time-related changes in FFM and RMR. The relationship between FFM and RMR change scores was evaluated using a Pearson correlation. All data were analyzed using the Statistical Package for the Social Sciences (SPSS Version 17.0, 2009). Results indicate that FFM and RMR significantly increased among women in this sample after 12 weeks in a RT or COM exercise program. Neither training modality (RT or COM) proved superior in eliciting RMR or FFM changes in this study.

Conclusions: Results provided, the COM may have had a significantly larger increase than that of the RT group.

Discussion

This study shows that resistance training and concurrent training result in a significant increase in RMR in women. While both groups completed the same resistance training program and both increased similarly in FFM, however, the mean increase of the COM RMR (+97.6 kcal) was nearly two times greater than the RT group (+52.2 kcal). The change of RMR between groups, however, was not shown to be statistically significant. These changes are illustrated in Figure 1 and 2. This lack of significance between groups is most likely to be attributed to lack of statistical power. If the trend continued and a larger sample was provided, the COM may have had a significantly larger increase than that of the RT group.

Selected References


