Numerous studies have documented the value of exercise in controlled clinical trials. However, results achieved in clinical trials may not be realized when applied to the general public. 

PURPOSE: To determine the effects of a second international 30-day fitness challenge on body composition and markers of health in women. 

METHODS: 29,220 sedentary women (44.3±13 yrs, 84.0±20 kg, 31.3±7% BMI, 38.3±7% fat) at 3,446 Curves® clubs in the US and Canada participated in the study. Subjects gave online consent and then completed questionnaires and baseline measures. Participants then followed the Curves 30-min circuit training program 3 d/wk plus a 30-min walk 4 d/wk. After 4 wks, subjects repeated testing and questionnaires. Data were analyzed by dependent T-test and are presented as mean±SD changes from baseline. RESULTS: Post-study results were obtained from 2,967 clubs with 14,535 participants. Participants experienced significant (p<0.05) decreases in weight (-2.1±3.4 lbs, -1.2%; n=14,350), percent fat (-0.7±1.9%, -1.8%; n=14,396), total inches (-3.9±5.3 in, -1.9%; n=13,548), BMI (-0.31±2.8 kg/m2, -0.9%; n=14,432), systolic BP (-2.6±11 mmHg, -1.6%; n=3,870), and diastolic BP (-2.2±8 mmHg, -2.1%; n=3,863). Participants also reported significantly less weekly (-10%) and monthly (-19%) alcohol consumption, sugar intake (-24%), and fat intake (-22.4%) with greater calcium intake (6.6%), and fiber intake (7%). 

CONCLUSIONS: Results corroborate previous findings that significant improvements in body composition, markers of health, and positive behaviors can be achieved through short-term fitness initiatives. 

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MAINTAINING A HIGH PROTEIN DIET WHILE PARTICIPATING IN A RESISTANCE TRAINING PROGRAM DOES NOT AFFECT MARKERS OF BONE HEALTH IN WOMEN

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Abstract

Diets containing foods with a high potential renal acid load (PRAL) such as fish, meat, meat byproducts, and cheese have been suggested to adversely affect bone unless buffered by the ingestion of alkali-rich foods like fruits and vegetables. For this reason, there has been some concern that high protein diets may adversely affect bone mass and markers of bone health particularly in women.

Rationale

Subjects were informed as to the experimental procedures and signed informed consent statements in adherence with human subject guidelines.

METHODS: 367 sedentary obese women (46.5±11 yrs; 90.8±16 kg; 34±5 kg/m2; 45±4 % body fat) participated in this study.

CONCLUSIONS: Diet combined with circuit training promotes decreases in waist and hip circumference, weight loss, fat mass and body fat percentage while reducing blood pressure, cholesterol and uric acid, and increasing resting energy expenditure.

Practical Application

Strength and conditioning specialist should not be concerned that short-term diets high in protein and low in fat may negatively affect bone mass in women.

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Methods & Procedures

Body mass, DXA body composition, anthropometric measurements, resting blood pressures, and fasting blood samples were obtained at 0 and 10 weeks.

Rationale

Subjects participated in a supervised 30-min resistance circuit training program that was interspersed with cardiovascular exercises and performed 3-d per week for the entire duration of the study.

Statistical Analysis

Data were analyzed by MANOVA with repeated measures using SPSS for Windows version 17.0 software (Chicago, IL) and are presented as means ± SD % change from baseline for each group (C, E, HC, and HP) at week 10 of the study.

Results

- Body mass (0.9±3.4; -0.2±2; -3.8±4.5; -4.6±4 kg, p=0.001) and fat mass (0.9±2.3; -0.5±1.9; -2.8±3.0; -3.2±4.5 kg, p=0.001) were significantly decreased in both diet groups.
- No significant differences were observed in changes in bone mineral content (4±66; -12±73; -14±66; -18±73 g/cm2, p=0.60), bone mineral area (-4±66; -18±73; -14±66; -18±73 cm2, p=0.60), or bone mineral density (0.008±0.02; 0.003±0.03; 0.005±0.03; 0.005±0.03 g/cm2, p=0.05). No significant differences were observed among groups in changes in serum calcium (p=0.26), alkaline phosphatase (p=0.17), uric acid (p=0.73), total protein (p=0.95), or creatinine (p=0.29).

Conclusions

No significant differences were observed among groups in changes in serum calcium (p=0.26), alkaline phosphatase (p=0.17), uric acid (p=0.73), total protein (p=0.95), or creatinine (p=0.29).
Numerous studies have documented the value of exercise in controlled clinical trials. However, few large scale studies have evaluated the effectiveness and safety of the Curves fitness program. The purpose of this study is to evaluate the impact of a 30-day international fitness intervention on fitness and health behaviors in a large-scale population.

Subjects
- 72,870 sedentary women (44.0±13 yrs, 83.3±19.7 kg, 31.9±7 kg/m² BMI, 37.9±7% fat) responding to advertisements for a 30-day fitness challenge at Curves® clubs in the United States and Canada volunteered to participate in this study. Participants were also encouraged to walk on non-training days and make positive changes in their diet. After 4-weeks, subjects repeated questionnaires and had post-measurements recorded. Data were analyzed by dependent T-tests and are presented as mean±SD changes from baseline.

Results
- Post-study results were obtained on 34,677 participants. Participants experienced significant (p<0.05) decreases in body weight (-0.86±2.2 kg, -1.1%; n=34,667), percent fat (-0.7±2.5%, -1.9%; n=34,349), total centimeters (-7.62±17.78 cm, -1.5%; n=33,899), BMI (-0.47±2.7 kg/m², -1.5%; n=12,167), systolic BP (-2.6±12.5 mmHg, -2.1%; n=11,767), and diastolic BP (-2.3±9.0 mmHg, -2.9%; n=11,711), as well as an increase in fat-free weight (0.05±2.4 kg, 0.1%; n=34,312). Participants also reported significantly less (-p<0.05) weekly (-10%) and monthly (-17%) alcohol consumption, sugar intake (-24%), and fat intake (-22%) with greater calcium intake (5.3%), and fiber intake (6.8%).

Conclusions
- Results corroborate previous findings that significant improvements in body composition, markers of health, and positive health behaviors can be achieved through short-term circuit training fitness initiatives.

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