

Mid Atlantic Regional Chapter of the American College of Sports Medicine



Annual Scientific Meeting, November 1st – 2nd, 2019 Conference Proceedings International Journal of Exercise Science, Volume 9, Issue 8

The Effect of a Placebo on the ROTC APFT Test and Performance Perception

Cassandra Saunders, Kimberly Williams, Christa Sebeck, Elizabeth McGee, Kelsy Fitzgerald Samuel Forlenza, Ph.D., Joohee Sanders, Ph.D. Shippensburg University, Shippensburg, PA

A placebo is a treatment without an active ingredient often used to study the psychological effects on the human mind and body. **PURPOSE:** To evaluate the effect varying doses of placebo has on the Reserve Officer Training Corps (ROTC) Army Physical Fitness Test (APFT). **METHODS:** Fourteen male and female individuals in the ages ranging from 19-21, who are enrolled in the ROTC program at Shippensburg University, volunteered to participate in this study. Subjects completed a standardized ROTC APFT under each condition (baseline (CON), single dose (P1), and double dose (P2) placebo) separated by one week. On placebo days, subjects were deceived and instructed to take a newly developed "pre-workout" supplement 30 minutes prior to the APFT test. The APFT included push-ups and sit-ups for 2 minutes each and a 2-mile run. A Performance Perception Questionnaire (PPQ) was also completed at the end of each day to assess the performance perception (PP) including anxiety, energy and strength. One-way ANOVA with repeated measures was used to compare repetitions for push-ups and sit-ups, 2-mile run time, and PP measures for three different conditions. **RESULTS:** No significant changes were observed in push-ups from the CON to P1 or P2 (67.1 \pm 14.8 vs. 68.1 \pm 12.1 and 67.9 \pm 17.1 repetitions, p>0.05). A modest increase in sit-ups scores were observed from the CON to P1 and P2 (65.7±10.0 vs. 71.3±11.0 and 67.7±13.3 repetitions, p>0.05). However, the differences were not statistically significant. Results from the 2-mile run test revealed that the run times were significantly improved at P1 when compared to CON (14.1 \pm 1.0 vs. 15.3 \pm 1.1 min, p=0.001), but not at P2 (15.6 \pm 0.6 vs. 15.3 \pm 1.1 min, p=0.52). When compared to CON, subjects felt significantly more anxious at P2 (1.0±1.8 vs. - 0.1 ± 2.6 , p=0.04) but not at P1 (1.0±1.8 vs. 1.3±1.9, p=0.7). Similarly, perceived energy level was significantly higher at P1 when compared to CON $(3.43\pm1.27 \text{ vs. } 0.57\pm2.94, p=0.01)$ but not at P2 (2.00 \pm 2.45 vs. 0.57 \pm 2.94, p=0.3). Subjects felt that they had the most strength at P1 (3.7 ± 1.6) when compared to CON (1.9 ± 2.5) and P2 (2.0 ± 2.5) . However, these differences were not statistically significant. **CONCLUSION:** While the placebo had a positive influence on some of the performance measures as well as performance perception, P1 appeared to have the greatest effect.