Validation of the Army 101st Airborne Division (Air Assault) Eagle Tactical Athlete Program

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Context: Optimal physical readiness of the Army soldier is paramount to tactical operations, performance, and injury prevention. Current research has identified several suboptimal characteristics which necessitate refined physical training. **Objective:** To validate the Eagle Tactical Athlete Program (ETAP) to modify suboptimal strength, performance, and Army Physical Fitness Test variables. **Design:** A randomized controlled trial. **Setting:** A University-operated, military human performance research laboratory. **Patients or Other Participants:** A total of 57 soldiers of the 101st Airborne Division (Air Assault) participated (Experimental- N: 30, age: 25.0 ± 5.2 years, height: 173.4 ± 8.3 cm, mass: 76.6± 11.3 kg, Control- N: 27, age: 25.0 ± 5.8 years, height: 175.6 ± 8.5 cm, mass: 76.5 ± 11.6 kg) participated. **Interventions:** Pre- and post-test measurements were captured for strength, performance, and Army Physical Fitness Test variables. Subjects were randomly assigned to an experimental or control group. The experimental group performed an eight week clinical trial of ETAP, which was based on the results from 21 months of laboratory data collected on soldiers of the 101st Airborne Division. ETAP followed a sports medicine periodized training model and included specific modalities designed to improve athleticism. The periodized training program was also developed to specifically address and maximize each athletic and skill-related performance component to ensure the tactical athletes are a viable force for deployment into the demands of the current conflict. The control group performed standard physical training according to FM 3-22.20. This trial was designed to induce adaptations in variables known to contribute to injury and limit performance. **Main Outcome Measures:** Knee, shoulder, and torso strength, body fat, anaerobic power and capacity, performance tests, and the Army Physical Fitness Test. Two way repeated measures ANOVA tests were used to analyze the dependent variables. **Results:** Compared to the control group, soldiers performing ETAP demonstrated significant improvements ($p < 0.05$) in knee extension strength (pre: 236.0 ± 48.9 %BW, post: 244.1 ± 42.3 %BW), torso strength (pre: 128.5 ± 33.5 %BW, post: 137.6 ± 27.4 %BW), 2-minute sit-ups (pre: 58.9 ± 13.3 repetitions, post: 68.0 ± 10.0 repetitions), 2-mile run (pre: 16.6 ± 2.4 minutes, post: 15.4 ± 2.0 minutes), agility (pre: 5.37 ± 0.45 seconds, post: 5.25 ± 0.38 seconds), 300 yard shuttle (pre: 69.2 ± 6.22 seconds, post: 66.8 ± 6.3 seconds), and anaerobic power (pre: 11.9 ± 2.3 w/kg, post: 13.9 ± 2.4 w/kg). **Conclusions:** Soldiers performing ETAP demonstrated significant improvements in variables that are vital to physical readiness, improving the athleticism of the soldier, and reducing the likelihood of musculoskeletal injury. The observed training adaptations should have long-term implications to improve physical readiness of the soldier when ETAP is periodized across a 10-12 month pre-deployment cycle. **Word Count:** 442