TACSM Abstract

The Effects of Adhering to ACSM Physical Activity Guidelines on Female University Employees

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ABSTRACT

Despite the well-established benefits of regular physical activity (PA), 50.9% of Americans do not meet the American College of Sports Medicine (ACSM) guidelines for cardiorespiratory, resistance, and flexibility exercise. Physical inactivity, low cardiovascular fitness (CVF), obesity and body fat percentage (BF%) are risk factors for increased cardiometabolic morbidity and mortality. Universities, despite the increased educational awareness, create sedentary environments that do not promote PA, thus jeopardizing their employees' health. **PURPOSE**: To educate university employees about the health-related benefits of PA and the time frame is needed to start seeing changes by meeting the minimum of the ACSM PA guidelines. **METHODS**: Female physical inactive university employees were targeted (Age 40 ± 11 yrs, Body weight 76.9 ± 4.4 kg). Participants underwent basic anthropometric (body weight, waist circumference, waist hip ratio), mean arterial pressure, body composition (using bioelectric impedance analysis) measurements, and a submaximum oxygen consumption test (using a Bruce protocol) as baseline measurements. Participants were given the ACSM guidelines and instructed to follow these for 12 weeks. No other control was made on participants' lifestyle factors between the pre- and post-measurements, other than the day before to replicate their diet, PA and sleep patterns. They were given a Fitbit© tracker to record and monitor their PA activity levels so they meet the weekly PA guidelines. This is an ongoing funded project from the Advancement of Interprofessional Collaboration and Education (ADVICE) project, and the reported results reflect pre- and post-values from end of week 1 to end of week 4 (N=4). Thus, all measurements were repeated after 4 weeks of the intervention. One-way factorial ANOVA by time was used to detect changes between Week 1 and Week 4. Significance was set at $p < 0.05$. All analyses were performed using SPSS©. **RESULTS**: BF% was significantly reduced by 38.8% ($F_{1,5} = 9.943$, $p = .025$, $\eta^2 = .665$). All the remaining examined variables were improved by week-4 presenting practical but were not statistically significant ($p > .005$). Lean mass was increased by 15.6%, mean arterial pressure was reduced by 9.6%, waist circumference was reduced by 5.7%, waist hip ratio was reduced by 20.7%, minutes of being physically active were increased by 13.7%, and predicted maximum oxygen consumption was increased by 4%. **CONCLUSION**: Following the ACSM PA guidelines for just 4 weeks and increasing the minutes of being physically by 13.7% it was enough to improve BF% and other associated cardiometabolic disease risk factors. Even though these results represent preliminary data from small sample size the practical significance of this study is that university employees can improve their risks factors for cardiometabolic morbidity and mortality by adhering to the ACSM PA guidelines for even 4 weeks.