

## Effects of a Six-Month Walking Intervention on the Physical Activity Measures among Older Adults

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Engaging in physical activity is an important part of slowing the decline of mental and physical health, especially among an aging population. **PURPOSE:** The purpose was to track and evaluate a six-month, pedometer-based walking program evaluating the physical activity level in a sample of older adults living in a rural community.

**METHODS:** Twenty-one older adults (age:  $71.8 \pm 5.4$  years) from an area senior center volunteered for the study. Sixteen subjects (age:  $72.6 \pm 5.5$  years; height:  $158.6 \pm 6.3$  cm; mass:  $81.6 \pm 12.6$  kg) self-selected to participate in the walking group (WG) and 5 (age:  $68.6 \pm 4.0$  years; height:  $157.4 \pm 6.2$  cm; mass:  $80.4 \pm 15.5$  kg) subjects volunteered for the control group (CON). Daily step frequency (SF) was used to determine baseline activity level by averaging seven consecutive days of pedometer data. The WG followed a ramping protocol designed to increase SF weekly by 1,000 steps until they reached a daily goal of 10,000 steps/day. During the program, the CON was asked to continue their normal activity while wearing the pedometer. The first 3 months (baseline and weeks 4, 8, and 12) of pedometer data were analyzed. SF was analyzed using a 2x4 repeated measures ANOVA. The 12-week average was assessed using a one-way ANOVA. One subject from the WG was not included in the data analysis due to missing pedometer data. **RESULTS:** Initially, there was not a difference between the groups at baseline (WG:  $4895 \pm 2589$  steps/day, CON:  $2378 \pm 1234$  steps/day,  $p = .053$ ). The interaction for group and time was not significant ( $p = .059$ ). However, there were significant main effects for group ( $p < .05$ ) and time ( $p = .03$ ). The independent  $t$  tests yielded a significant difference between the groups at week 4 (WG:  $7364 \pm 3319$  steps/day, CON:  $3129 \pm 1629$  steps/day,  $p = .01$ ), week 8 (WG:  $7859 \pm 4332$  steps/day, CON:  $2340 \pm 843$  steps/day,  $p < .01$ ), and week 12 (WG:  $7591 \pm 3585$  steps/day, CON:  $2355 \pm 1421$  steps/day,  $p < .01$ ). The 12-week average was higher in the WG ( $7251 \pm 3305$  steps/day) than the CON ( $2692 \pm 799$  steps/day). **CONCLUSION:** The first 12 weeks of the study have shown that implementing a pedometer-based walking program, with goals for individuals to achieve, is an effective way of increasing physical activity in older adults.