Forschungsgesuch Schütz

Prescription of walking exercise in overweight subjects

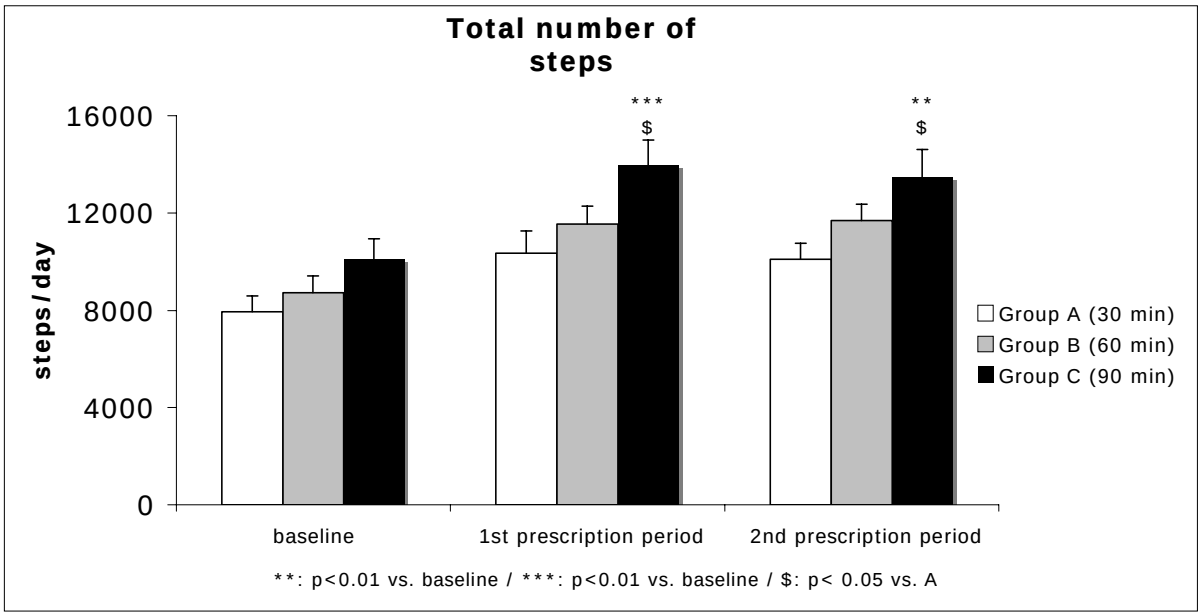
Effectiveness of different walking prescription durations on the increase in physical activity in women

Virgile Lecoultre[1], Dac Minh Tuan Nguyen[1], Philippe Terrier[1], Andrew Hills[2], Yves Schutz[1]
1. Department of Physiology, University of Lausanne, Switzerland
2. Institute of Health and Biomedical Innovation, Queensland University of Technology, Australia

Introduction: Fat mass loss and improvement in cardiovascular health may be promoted by extra physical activity, such as brisk walking. Different durations of daily walking prescription have been proposed. However, little is known about the effectiveness of these prescriptions on total daily physical activity.

Methods: After a 2 week baseline period, 36 women were randomly assigned to 3 groups of walking prescription: 30 (A), 60 (B) or 90 (C) minutes. During 4 consecutive weeks (divided into 2 periods), subjects were asked to add their assigned amount of walking to their normal activity 5 times per week. Physical activity was measured inconspicuously by accelerometry.

Results: Total number of steps during baseline was not significantly different among groups (figure). During the 2 prescription periods, total number of steps was significantly higher only ($p < 0.01$) in group C vs. A. Total number of steps was significantly higher in group C, as compared to baseline. However, the increase in steps per day was not significantly different among groups. Compliance to prescription was not significantly different among groups and periods (mean: 83%, range: 0 to 212%). A significantly higher ($p<0.05$) compensation effect occurred (2nd prescription period) between C and A (68% vs. 19% respectively).



Discussion and conclusion: Large interindividual variability in adherence to exercise prescription and compensatory mechanisms may explain the lack of differences between groups in the increase in physical activity. A 90 minute walking prescription may be more effective than 60 or 30 minutes to achieve higher physical activity and overcome poor adherence and compensatory effects to exercise prescription.

This Research was funded by the "Sport and Movement" grant of the Swiss Federal Office of Sports, Magglingen