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2.3 Walking behavior and metabolic syndrome in a community (the Fleurbaix Laventie Ville Sante Study II)
Jean-Michel Oppert - Hotel-Dieu Hospital (University Paris VI); Muriel Tafflet, Adrien Kettaneh - INSERM U 258; Jean-Michel Borys, Agnes Lommez - FLVS ASSOCIATION; Marie-Aline Charles - INSERM U 258

**Purpose:** Relationships of objectively assessed walking behavior with health outcomes need further clarification. We investigated the cross-sectional associations of pedometer recordings with metabolic syndrome (MetS) in a population-based study.

**Methods:** In 221 men and 268 women aged 25-65 y living in two towns in Northern France, we assessed: pedometer recordings (Yamax DW 450) for 7 days, waist circumference, blood pressure, and fasting plasma glucose, triglycerides and HDL-cholesterol. MetS was defined according to National Cholesterol Education Program criteria. Sex-specific relationships of average number of steps/day (in quartiles) with MetS frequency were analysed using chi-square tests and logistic regression models.

**Results:** Median (interquartile range) of number of steps/day was 8100 [6000-9850] in men and 7250 [5770-9130] in women. The most frequent MetS abnormality was increased blood pressure, the least frequent increased blood glucose. MetS frequency was 10.9% in men and 11.6% in women. MetS frequency significantly decreased from 1st to 4th quartile of number of steps/day in men (4.5%, 3.2%, 2.7%, and 0.5%, respectively, p<0.05) but not in women (4.1%, 2.6%, 3.0%, 1.9% respectively, NS). In men, the relationship remained significant when adjusted for age by logistic regression.

**Conclusions:** Although cross-sectional, the data suggest a favorable association of pedometer recordings with MetS, at least in men. This may be of importance in health promotion programs designed to increase walking behavior in the population.

2.4 Depression and physical activity: a 10 year longitudinal study from 13 to 23 years of age
Bente Wold, Marianne Skogbrott, Torbjørn Torsheim - University of Bergen

**Purpose:** To examine the direction of causality between participation in leisure-time physical activity and depressed mood during adolescence and young adulthood in a normal sample of adolescents.

**Methods:** Data are from the Norwegian Longitudinal Health Behaviour Study. The respondents were surveyed between 1990 (at age 13) and 2000 (age 23) at 8 measurement points. 924 students participated in 1990 and 627 in 2000. The study is based on self report measures. Analyses of variance and growth curve analysis were applied to the data.

**Results:** Depressed mood at an early stage in adolescence seems to predict physical inactivity, while participation in leisure-time physical activity was not found to be predictive of depressive mood.

**Conclusions:** As depressive mood is indicated by a lack of motivation and initiative in general, it is likely that feeling depressed may also affect the motivation for taking part in physical activity during leisure time. Thus, the findings imply that there may be a need for targeting interventions to promote physical activity among depressed adolescents.

2.5 Effects of high-intensity progressive resistance training on self-reported health status in older persons with type 2 diabetes
David Dunstan - International Diabetes Institute; Robin Daly - Deakin University; Neville Owen - The University of Queensland; Jonathan Shaw - International Diabetes Institute; Damien Jolley - Monash Institute of Health Services Research; Elena Vulikh, Paul Zimmet - International Diabetes Institute

**Purpose:** To evaluate the influence of high-intensity progressive resistance training (PRT) on self-reported physical and mental health in older persons with type 2 diabetes.

**Methods:** We performed a 12-month RCT with 36 overweight men and women with type 2 diabetes (aged 60-80 years) who were randomly assigned to a moderate weight-loss diet plus PRT (PRT&WL) or a moderate weight-loss diet plus a control (stretching) program (WL). Gymnasium-based training for 6 months was followed by an additional 6 months of home-based training. The SF-36 (v1) questionnaire was used to obtain physical (PCS) and mental (MCS) health component summary scores at baseline, 6 and 12 months.

**Results:** Subject retention was 81% and 72% after 6 and 12 months respectively. Exercise adherence during gymnasium- and home-based training was 88% and 73% for the PRT&WL group, and 85% and 78.1% for the WL group respectively. In a regression model adjusted for age and sex, PCS improved in the PRT&WL group compared to the WL group after 6 months of gymnasium-based training (2.3 versus -2.0, p = 0.05), which persisted after 12 months training (0.7 versus -4.1, p = 0.03). There were no between-group differences at 6 or 12 months for the MCS.

**Conclusion:** High-intensity PRT was effective in improving self-reported physical health, but not mental health. PRT provides an effective exercise alternative in lifestyle management for older adults with type 2 diabetes.