

The International 22nd Puijo Symposium
"PHYSICAL EXERCISE IN CLINICAL MEDICINE –
CRITICAL APPRAISAL OF SCIENTIFIC EVIDENCE"
June 24 - 28, 2014 Kuopio, Finland

**ASSOCIATION OF PHYSICAL ACTIVITY AND SLEEP PROFILES WITH
CARDIOVASCULAR RISK FACTORS**

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Objectives

Physical activity (PA) and sleep associate with cardiovascular disease (CVD) risk factors, such as blood pressure, blood lipids, glucose metabolism and obesity. The joint effects of health behaviors on CVD risk are a less studied than the independent effects of separate behaviors. Our aim was to study cross-section associations of different PA and sleep profiles with CVD risk factors in adult Finns.

Methods

A representative random sample of 25-64-year-old Finns (n=6424) participated in a health examination, the FINRISK 2012 Health Study. We defined PA and sleep profiles using latent class analysis based on 11 self-reported PA and sleep items. CVD risk factor levels among profiles were compared using weighted logistic regression models, controlled for age, education, alcohol intake, smoking and menopause for women.

Results

Four PA-sleep profiles were identified for men and women. In women, profile 2 (lightly active, normal range sleepers) had higher odds for high total cholesterol, triglycerides and low-density lipoprotein, and profile 4 (inactive, evening type short sleepers) had higher odds for low grade inflammation, high glycated hemoglobin and abdominal obesity, compared to profile 1 (physically active, normal range sleepers). In men, profile 4 (physically inactive, poor sleepers) had higher odds for high glycated hemoglobin compared to profile 1 (physically active, normal range sleepers).

Conclusions

In the four different PA-sleep profiles, prevalence of high CVD risk factors concentrated in two profiles with associations more evident in women than men. Certain unhealthy combinations of PA and sleep may be more detrimental to cardiovascular health than healthy combinations.