Supplementary - Associations between self-reported physical activity and obstructive sleep apnea severity in a cohort of community dwelling males.

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Supplementary S1. Adjustments for linear regressions.

Methods

Variables included in univariate models.

The following variables were examined for potential confounding; age, self-reported income levels, alcohol consumption status, smoking status, dietary patterns, self-reported physical activity levels, diabetes status, hypertension status, arthritis status, underwent treatment for cancer within the previous five years, cardiovascular disease status, depression, DXA-derived muscle mass, DXA-derived fat mass, testosterone levels, and systemic inflammation. Any variable with $p < 0.1$ was adjusted for in the models.

Measurement methods of variables

Age was how old they were in years at the time of the sleep study. Income levels were determined by self-report during the computer assisted telephone interview. Due to potential differences in data collection, study group was adjusted for (North-West Area Health Study vs Florey Adelaide Mens Aging Study). Participants were asked about alcohol consumption (never, less than once a week, or more than once a week) and smoking status (neve vs current or ceased in the last 5 years). Diet patterns was measured by the Victorian Cancer Council Food Frequency Questionnaire [1], where data was factor analysed into 'healthy' and 'unhealthy' diet patterns, with unhealthy subtracted from healthy to provide a numerical value. The higher the value, the healthier the diet. Diabetes status was determined by at least one of the following: self-report of doctor diagnosed diabetes and/or taking diabetes medications, or, using data from the previously described blood analysis, fasting blood glucose ≥7.0mmol/L, and/or a HbA1c ≥6.5mmol/L. Hypertension status was determined by: a measurement of blood pressure of 140/90mmHg, self-report from a doctor diagnosis, and/or concurrent anti-hypertensive medication usage. Self-report was used to determine, arthritis status (both osteo-

and rheumatoid arthritis), cancer within the last five years, any type of cardiovascular disease. Depression was determined by the Patient Health Questionnaire with patients stratified to having none, mild, moderate, moderately severe, and severe depression[2]. Testosterone levels were determined by a liquid chromatography-tandem mass spectrometry. C-reactive protein levels, which indicated systemic inflammation, were determined by chemiluminescent enzyme linked immunosorbent assay. Both testosterone and c-reactive proteins were log-transformed for normality.

Results

Results for univariate associations of known or suspected determinants of HGS are presented in Table S1. Significant univariate associations existed for both AHI and T90% for; age, BMI, income, study group, diabetes status, hypertension status, cardiovascular disease status, serum testosterone, and systemic inflammation.

Table S1 Univariate associations of biomedical variables with AHI and time spent below 90% oxygen saturation.

	AHI	T90%
Age	**< 0.001**	**< 0.001**
BMI	**< 0.001**	**< 0.001**
Income	**0.004**	**< 0.001**
Alcohol consumption	0.2	0.9
Smoking	0.2	0.2
Dietary patterns	0.6	0.06
Study group	**0.041**	**0.010**
Diabetes status	**<0.001**	**0.002**
Hypertension status	**< 0.001**	**< 0.001**
Cardiovascular disease	**< 0.001**	**< 0.001**
Depression	0.5	0.3
Testosterone	**0.002**	**< 0.001**
Inflammation	**< 0.001**	**< 0.001**

Supplementary references

1. Hodge A, Patterson AJ, Brown WJ, Ireland P, Giles G. The Anti Cancer Council of Victoria FFQ: relative validity of nutrient intakes compared with weighed food records in young to middle-aged women in a study of iron supplementation. *Aust N Z J Public Health* 2000: 24(6): 576-583.

2. Kroenke K, Spitzer RL, Williams JBW. The PHQ-9: validity of a brief depression severity measure. *J Gen Intern Med* 2001: 16(9): 606-613.