**Low sedentary behaviour is associated with better cardiometabolic profiles in COPD patients, irrespective of moderate intensity physical activity**

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**Background**

People with COPD have reduced physical activity and increased cardiometabolic disease. Understanding the relationship between different types of inactivity and cardiometabolic impairment is important to design appropriate interventions

**Aim**

To determine the effects of physical inactivity and sedentary behaviour on cardiometabolic profiles in COPD patients

**Methods**

Stable COPD patients underwent actigraphy over 8 days. Physical inactivity was defined as <150 mins moderate intensity exercise/week. High sedentary behaviour was defined as being in the lowest 3 quartiles for daily breaks from sedentary time. Cardiometabolic profiles were compared between couch potatoes (CP) (physically inactive, high sedentary), sedentary exercisers (SE) (physically active, high sedentary), light movers (LM) (physically inactive, low sedentary) and busy bees (BB) (physically active, low sedentary)

**Results**

Metabolic syndrome was more common in high (SE 71%, CP 66%) than low sedentary groups (BB 20%, LM 0%, p=0.01). High sedentary patients had greater insulin resistance (HOMA2IR) (SE 2.2±1.0, CP 3.1±2.2, BB 1.5±0.7, LM 0.9±0.4, p=0.028) and lower HDL cholesterol (SE 1.7±0.5, CP 1.5±0.5, BB 2.2±1.0, LM 2.4±0.6, p=0.015). On univariate analysis, after adjustment for age and gender, sedentary behaviour determined HOMA2IR and HDL, independent of physical activity

**Conclusions**

Sedentary behaviour was associated with worse cardiometabolic profile, independent of physical activity. Interventions to promote non-sedentary behaviour could improve cardiometabolic profiles, even in COPD patients unable to achieve moderate intensity activity