Cardiovascular disease

Obesity is a risk factor for sudden cardiac death

Both general and central obesity are associated with an increased risk of sudden cardiac death in middle-aged men and women, a prospective cohort study has found.

Data from 14,941 men and women aged 45-64 (mean 54) years, taking part in the Atherosclerosis Risk in Communities (ARIC) study were analysed. The participants who were African American or white were recruited from four centres in the US. Body mass index (BMI), waist circumference and waist:hip ratio were measured at baseline. Mean follow-up was 12.6 years.

There were 253 sudden cardiac deaths, incidence rate 1.34/1,000 person-years. After adjusting for age, sex, race, study centre and education level, sudden cardiac death risk was continuously and positively associated ($P < 0.001$) with BMI, waist circumference and waist:hip ratio in nonsmokers, but not in smokers. Waist:hip ratio was more strongly associated with sudden cardiac death in nonsmokers than BMI or waist circumference.

After adjustment for hypertension, diabetes, lipid profile, prevalent coronary heart disease, heart failure, and LV hypertrophy, nonsmokers in the highest waist:hip ratio category had double the risk of sudden cardiac death HR 2.03 (95% CI:1.19-3.46); incidence rate 1.43/1,000 person-years compared with those with normal waist:hip ratio.

Obesity is a major health problem and a recognised risk factor for a broad range of cardiovascular, metabolic, neoplastic and musculoskeletal disorders. It is thought to reduce life expectancy by ten years in people with a BMI > 40 kg/m^2 i.e. those with morbid obesity.

Obesity has adverse structural and electrical effects on the heart and as such potentially creates a substrate for sudden cardiac death.

The authors concluded that general obesity is associated with increased risk of sudden cardiac death in middle-aged, nonsmoking individuals, mediated by traditional cardiovascular risk factors such as high blood pressure, lipid profile, diabetes and CHD. Central obesity, however, is independently associated with sudden cardiac death by pathways that are at present unknown.

DR PETER SAVILL

● **Adabag S, Huxley RR, Lopez FL et al. Obesity related risk of sudden cardiac death in the atherosclerosis risk in communities study. *Heart* 2015;101:215-221 doi:10.1136/heartjnl-2014-306238**

Addiction

Long working hours associated with increased drinking levels

People who work long hours are more likely to increase their drinking to levels that pose a health risk, a systematic review and meta-analysis published in the *BMJ* has found.

Data were analysed from 36 published studies, of which 34 were cross sectional and two prospective, as well as unpublished individual participant data from 27 other cross-sectional studies.

In the meta-analysis of the 61 cross-sectional studies, covering 333,693 participants from 14 countries, the pooled adjusted odds ratio (OR) for the association between working long hours and alcohol use was:

- OR 1.1 (95% CI:1.05-1.18).

In the analysis of prospective published and unpublished data, covering 100,602 participants from nine countries OR for new-onset risky alcohol consumption was:

- OR 1.12 (95% CI:1.04-1.20).

Data from 18 prospective studies with individual participant data allowed a comparison to be made between weekly working hours' categories. Compared with those working 35-40 hours a week, individuals working longer than the European Working Time Directive limit of 48 hours a week had an increased risk of new-onset risky drinking:

- OR 1.3 for those working 49-54 hours a week and
- OR 1.12 for those working > 55 hours a week.

There were no differences between men and women, age or socioeconomic groups, cohorts or geographical areas.

This systematic review and meta-analysis provides strong evidence of an association between long hours of work and at-risk alcohol use, including the development of new-onset higher risk drinking patterns.

Evidence suggests that the UK workforce has some of the longest working hours in Europe, and in an earlier UK survey it was found that 19% of men and 4% of women worked between 49 and 60 hours a week.[1] Long working hours, exceeding the European Working Time Directive limit, are known to be associated with an increased risk of health problems, including physical and mental health conditions and occupational injuries. Despite this any association between long working hours and at-risk alcohol use has not previously been systematically evaluated.

GPs should bear in mind the need to enquire about alcohol consumption for their patients who work long hours, particularly if they present with physical or mental health problems known to be associated with at-risk drinking.

DR JEZ THOMPSON

● **Virtanen M, Jokela M, Nyberg ST et al. Long working hours and alcohol use: systematic review and meta-analysis of published studies and unpublished individual participant data. *BMJ* 2015;350:g7772**

REFERENCE

1 Kodz J, Lain D, Sheppard E et al. Working long hours: A review of literature and secondary data analysis (draft interim report). Institute for Employment Studies. Brighton. 2001