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E-039

Reported Heart Disease and Stroke in Relation to Aircraft and Road Traffic Noise in Six European Countries – the HYENA Study

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Epidemiology: September 2012 - Volume 23 - Issue 5S -

doi: 10.1097/01.ede.0000416638.84261.d5

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E-039**REPORTED HEART DISEASE AND STROKE IN RELATION TO AIRCRAFT AND ROAD TRAFFIC NOISE IN SIX EUROPEAN COUNTRIES – THE HYENA STUDY****Authors:****Sarah Floud**, Imperial College London, United Kingdom**Marta Blangiardo**, Imperial College London, United Kingdom**Charlotte Clark**, Queen Mary University of London, United Kingdom**Wolfgang Babisch**, Department of Environmental Hygiene, Federal Environment Agency, Germany**Danny Houthuijs**, National Institute for Public Health and the Environment, The Netherlands**Göran Pershagen**, Institute of Environmental Medicine, Karolinska Institute, Sweden**Klea Katsouyanni**, Department of Hygiene, Epidemiology and Medical Statistics, Medical School, National and Kapodistrian University of Athens, Greece**Manolis Velonakis**, Laboratory of Prevention, Nurses School, National and Kapodistrian University of Athens, Greece**Ennio Cadum**, Environmental Epidemiologic Unit, Regional Agency for Environmental Protection, Italy**Anna Hansell**, Imperial College London, United Kingdom, a.hansell@imperial.ac.uk**Background:** Studies on the health effects of aircraft and road traffic noise exposure suggest excess risks of hypertension and myocardial infarction.**Objectives:** Our aim was to assess the risk of cardiovascular disease in relation to noise from aircraft and road traffic.**Methods:** This cross-sectional study measured cardiovascular disease as a diagnosis by a doctor of myocardial infarction, angina pectoris or stroke, after moving to current address, as reported by 4,861 participants living near airports in six European countries (UK, Germany, Netherlands, Sweden, Italy and Greece). Exposure was assessed using models with 1dB resolution (5dB for UK road traffic noise) and spatial resolution of 250mx250m for aircraft and 10mx10m for road traffic noise. Data were analysed using multilevel logistic regression.**Results:** We found an elevated risk of cardiovascular disease in relation to average daily road traffic noise exposure after adjustment for major confounders (OR 1.19 (95% CI 1.00, 1.41)) per 10dB; participants aged 65-70 yrs were at particular risk (OR 1.34 (1.03, 1.74)). We also found an excess risk of cardiovascular disease in relation to aircraft noise at night which lost statistical significance after adjustment for confounders (OR 1.12 (0.98, 1.21)). Exposure to aircraft noise in the day was not associated with an increased risk of cardiovascular disease (OR 1.06 (0.92, 1.21)).**Conclusions:** Our results suggest exposure to road traffic noise is associated with increased risk of cardiovascular disease, with a greater effect in older people. Exposure to aircraft noise at night may also be a risk factor for cardiovascular disease.**Keywords:** aircraft noise, road traffic noise, cardiovascular disease, cross-sectional study, transport

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