

Press Relations Officer: Martin Ittershagen
PR-staff: Anke Döpke, Dieter Leutert,
Fotini Mavromati, Theresa Pfeifer, Martin Stallmann
Address: Postfach 1406, 06813 Dessau-Roßlau
Telephone: +49 340/21 03-2122, -2827, -2250, -2318, -3927, -2507
E-Mail: pressestelle@uba.de
Internet: www.umweltbundesamt.de

Exposure to traffic and aircraft noise are recipes for illness

International study repeats findings: the greater the noise exposure, the higher the blood pressure

Noise is not only a nuisance, it can also cause illness. People who are exposed to high levels of night-time aircraft noise often have higher blood pressure levels than those living in quieter residential areas. Even an increase of the night-time noise level by 10 decibels [dB(A)] in noise level ranges between 30 and 60 [dB(A)] raises the risk of hypertension in men and women by about 14 percent. These are the findings of a new international study funded by the European Commission. The large-scale European study (with cooperation from the Federal Environment Agency) surveyed some 5,000 citizens living near the airports of Amsterdam, Athens, Berlin, London, Milan, and Stockholm. The study's experts focused on the health effects, especially on blood pressure, of aircraft and road traffic noise.

The researchers determined aircraft noise on the basis of flight activity and aircraft data. Night-time aircraft noise exposure of test subjects was at levels of 30-60 dB(A). Spot tests included persons who are not exposed to any significant levels of noise, thus enabling comparisons to be made between different degrees of noise exposure in residential areas. In addition, information supplied by subjects on the questionnaires ensured there were no differences in certain sociodemographic risk factors, e.g. age or education, or other health risk factors such as smoking, obesity, physical activity and exercise.

The results from all airport areas revealed that people exposed to night-time aircraft noise (based on average levels between 10 pm and 6 am, or 11 pm and 7 am, depending on country), often had higher blood pressure levels (measured locally) or were already receiving medical treatment for it, in comparison with their counterparts living in quieter areas. Researchers discovered that an aircraft noise level elevated by 10 dB(A) corresponds to a roughly 14-percent increase in the risk of hypertension, affecting both women and men in equal measure. There is a night-time flying ban in effect at the Berlin-Tegel airport, which therefore produced rather different results in a sub-sampling conducted in Berlin. In fact, mainly daytime noise exposure (measured between 6 am and 10 pm) was associated with a risk of high blood pressure.

The researchers also investigated residents' exposure to road traffic noise, which occurred in Berlin by means of the city's traffic noise map. Results also show a correlation between noise and hypertension: if average road traffic noise level increases (24-hour mean value) by 10 dB(A), the risk of high blood pressure rises by about ten percent in the noise level range of 45-70 dB(A). This slight risk increase mostly concerns men, with a less significant effect on women. Results from Berlin deviate from those at other airports in that the effects of road traffic noise in the city are somewhat greater than aircraft noise.

The subjective rating of the noise situation indicated by subjects shows a clear connection between exposure to aircraft and road traffic noise and the noise levels outside the home. Indeed, the higher the noise level, the higher the rating of disturbance registered by people. The researchers determined that subjects feel greater stress from aircraft noise at equal exposure levels than was known from earlier investigations.

The study has been published in English and is available on the Internet at:

<http://www.ehponline.org/docs/2007/10775/abstract.html>

More information can be found on the consortium web site at:

<http://www.hyena.eu.com/links.htm>

Dessau-Roßlau, 14 January 2008