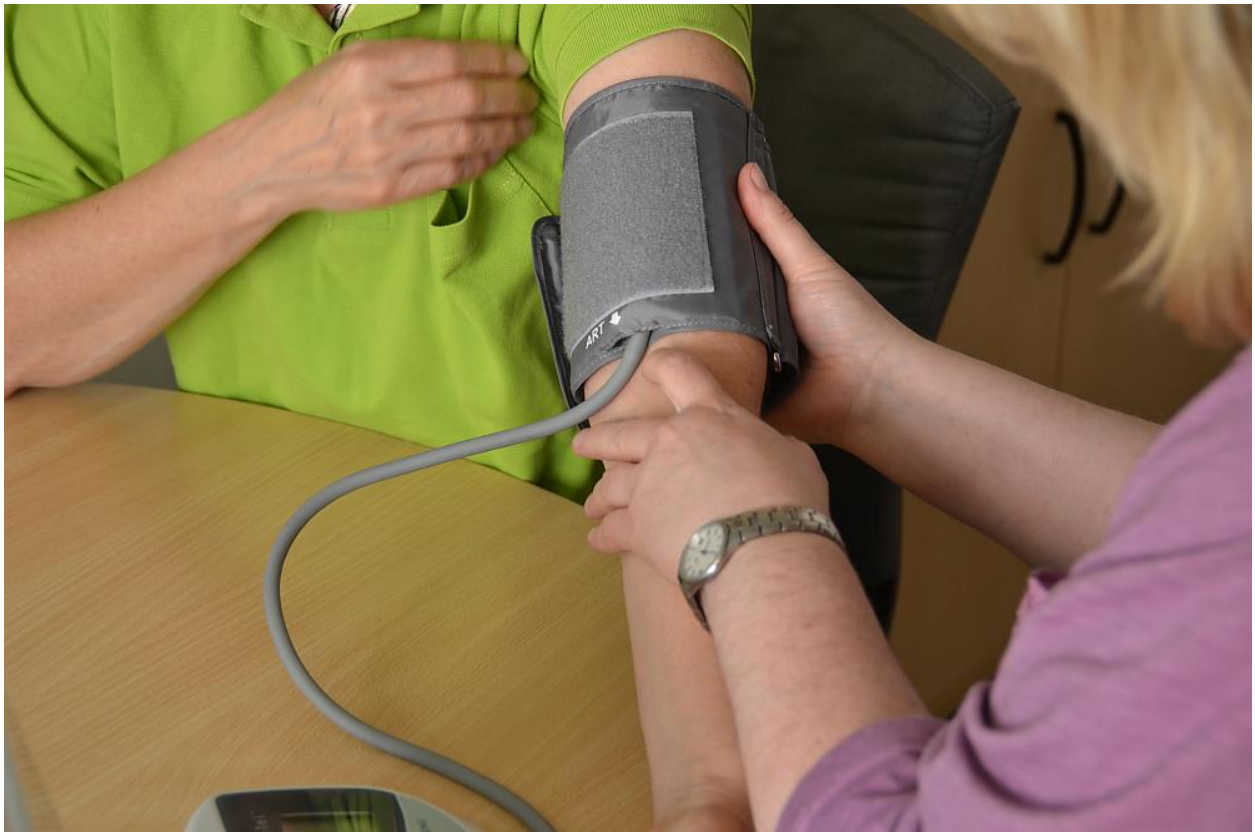
NORAH
Lärmwirkungsstudie

Strengths of the study



Several investigations carried out before the NORAH Study provided indications that people who are
regularly exposed to severe noise are more likely to suffer from hypertension. The results of these studies were, however, very different in the detail. Often they were only able to verify the described association for certain sub-groups of the population concerned. There was no clear overall picture. Many studies only took into consideration the number of hypertension patients instead of including the measured blood pressure in the evaluation. The NORAH Blood Pressure Study wanted to investigate this association in detail, while avoiding the methodological weaknesses of previous studies.

The NORAH Blood Pressure Study has the following strengths:

Large number of measurements

844 persons took part in the study. They measured their own blood pressure every morning and evening over a period of three weeks and repeated these measurements after one year. This meant that the NORAH scientists were able to use more than 130,000 blood pressure measurements for their analyses. This is a very high number for this type of study. Self-measurements on this scale

have never been carried out before.

Blood pressure measurement at home

The participants performed self blood pressure measurements at home. This is because blood pressure is often higher when measured by the doctor – presumably due the patient being nervous in this situation. Doctors call this “white coat effect”. All of the participants were trained to carry out the measurements correctly. The mean values from three-week measurement series were used for the evaluation.

Correlation of the results with the three traffic noise types

It was possible to analyse the mean blood pressure values with very precise acoustic data for the three traffic noise types. Former studies usually only investigated one type of noise. Additionally, the aircraft noise exposure NORAH was computed by very complex procedures for exactly twelve months before participants blood pressure measurements began. Also, it was taken into consideration, that air traffic noise affects all of the facades of a building, while exposure to road and rail traffic noise depends on source direction.

Do you have any questions?

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