
RAILWAY NOISE ANNOYANCE AND HYPERTENSION RISK IN POPULATION LIVING AROUND TRAIN STATION

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Aims: Some studies have suggested an association between noise exposure and hypertension. The hypothesis that prolonged exposure to train traffic noise causes high blood pressure was tested in a 4 years follow-up cohort study in population living in a dense traffic area, near a train station.

Method: The study comprised two random samples of individuals aged 35–49 years. Study group included residents in the vicinity of train station (150 men) and 143 men from a quieter area of the same town. There was a continuous noise (level under 60 dB) and impulse interrupted noise exceeding 60 dB. Data were collected by use of a questionnaire and subjects were questioned about: heredo-colateral history of hypertension, smoking habits, the presence or absence of noise related to the profession, duration of living in the present home. After exclusion of those reporting an existing high blood pressure, or a professional exposure to noise at work, the final groups, consisted of 150 and 143 men, respectively, were seen in the initial cross-sectional phase and at follow-up intervals of 4 years. A general health questionnaire survey on community was conducted. There were questions regarding subjective symptoms, annoyance, sleep disturbance. The blood pressure was controlled twice a month.

Results: The two groups were compared. Initial response rate was 65%. The groups were followed up every year, for 4 years. 73% of the original participants were followed up. 25% of the first group, exposed to noise, reported sleep disturbance, annoyance, headaches, nervousness and fatigue. 8% of them reported hypertension. Only 2

persons from the second group, unexposed to noise, had high blood pressure (1.4%). No convincing differences were seen in headaches, but the sleep quality was better and they did not complain so often of nervousness and fatigue.

Discussions: A strong correlation was found between noise annoyance and psychological disturbance in the population living in a noisy area. Hypertension is more often present in subjects exposed to environmental noise.

Conclusions: Our findings suggest that exposure to train intense traffic noise might be a risk factor for hypertension. A subsequent study of a larger group could clarify this finding.