Health effects of noise and vibration due to rail traffic

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ABSTRACT

A recent review (van Kempen, et al. 2013) reported that in the Netherlands over 660,000 persons live within 150 meters from a railway track. The results of a few relevant Dutch and European studies were inconclusive regarding the strength of the relationship between exposure to vibration of rail traffic and annoyance and (sleep) disturbance. Also, these studies used different measures in order to quantify the exposure to vibration, which made comparisons between studies problematic. There are indications for a complex interplay between vibration and noise from rail traffic, indicative of a cumulative effect. Furthermore, the findings indicate that annoyance and sleep disturbance are also related to the low frequency component of rail traffic noise. Based on these findings a large survey was held among a stratified sample of people living within 300 meters from a railway track in the Netherlands (N=5000). This paper will report on this study with a focus on annoyance, sleep and wellbeing as possible health outcomes and the interplay between noise and vibration as the relevant environmental exposures.

Ref

E.E.M.M. van Kempen, R.A. Baumann, H.J. van Wijnen, I. van Kamp (2013) Health effects of vibrations due to rail traffic. A review. RIVM report 630650004/2013 (in Dutch)