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### Exploring the relationship between noise-disturbed sleep and long-term health effects

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Sleep disturbance due to noise is one of the most frequent complaints of populations living in noisy areas. Sleep quality can be evaluated by both instrumental and subjective measures. The physiological structure of sleep can be quantified by several parameters such as sleep onset latency, sleep duration, time spent in each stage of sleep. Subjective measures are subject's own evaluation of sleep quality as well as next day possible after-effects. Annoyance due to ambient noise may be often seen as the visible part of a greater problem. A certain amount of habituation to noise does exist. If the noise load is not in excess, subjective habituation can occur in a few days or weeks. However, this habituation is not complete and the measured modifications of the autonomic functions, such as cardiovascular responses, still remained unchanged over long periods of exposure. It is believed that such long term effect could lead to permanent cardiovascular system impairment. However, to date, there is no evidence of conclusive effect of chronic exposure to noise during sleep on cardiovascular diseases. The main difficulty is to separate cumulative effects of noise-exposure at night from the global exposure to other environmental factors (including noise) over the 24-hour period. To our knowledge, no epidemiological study has tried to specifically answer this question of the effects of noise exposure during the night compared to the more global daily exposure.

*The complete document was not available at the publication time. It has been replaced by the submitted abstract.*