

# Traffic Noise May Increase the Risk of Dementia

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## INTRODUCTION

According to the World Health Organization, more than 55 million individuals worldwide suffer with dementia in some form (WHO). Experts predict that by 2050, the global population will have grown to more than 150 million people. Study of its type, noise from road traffic and railroads is linked to an increased risk of dementia. Although research has repeatedly connected transportation noise to health disorders such as heart disease, diabetes, and obesity, studies on transport noise and dementia are few and limited, with inconsistent results [1,2].

### Dementia Risk Factors: Which can be Reduced

To prevent and manage this expanding worldwide health catastrophe, it's critical to identify possibly modifiable dementia risk factors. Numerous studies have repeatedly connected noise pollution to a variety of health problems, including obesity, diabetes, and coronary heart disease. However, research investigating the impact of noise on dementia is limited [3].

The researchers looked into a possible link between long-term home exposure to transportation noise and the incidence of incident dementia, recognising the need for more controlled testing. After air pollution, transportation noise is the second most dangerous environmental risk factor for human health in Europe. Around 20% of people in Europe are exposed to noise levels above the recommended 55 decibel threshold due to transportation.

### Consequences of Sleep Disruption

Sleep is a key period for mental and cognitive recuperation, therefore being exposed to this amount of noise at night is very troubling. Noise-induced sleep fragmentation has been linked to increased oxidative stress, immune system changes, and systemic inflammation in animal studies. All of these symptoms, according to experts, are precursors to dementia and Alzheimer's disease [4].

During this time, about 103,000 additional instances of dementia were diagnosed. Further analysis of the study's data revealed that noise from roads and trains is linked to an increased risk of all types of dementia, particularly Alzheimer's disease. In the hippocampi of mice, repeated exposure to noise stimulates the creation of critical genes that may lead to neuropathological alterations associated with Alzheimer's disease, according to several animal studies.

## Reducing Noise's Detrimental Consequences

The study's findings that imply a higher dementia risk for people living in suburban locations than those living in urban areas could be explained by the apparent prioritising of noise-reducing measures. Despite its size and scope, this research was purely observational. As a result, it is impossible to demonstrate causation. The study also had several flaws, such as a lack of information regarding lifestyle practises, which can influence a person's chance of acquiring dementia. Furthermore, noise from airports, noise from industrial operations, and occupational noise exposure were not taken into account by the researchers.

## DIAGNOSIS

Symptoms are similar among dementia kinds, making it challenging to diagnose dementia only on the basis of symptoms. Brain scanning techniques may help in diagnosis. In many cases, a brain biopsy is required to confirm the diagnosis, but this is rarely advised (though it can be performed at autopsy). General screening for cognitive impairment via cognitive testing or early diagnosis of dementia has not been found to enhance outcomes in persons who are getting older [5].

To establish a diagnosis, symptoms must be present for at least six months. Delirium is a type of short-term cognitive impairment. Because of the similarities in symptoms, delirium is often mistaken for dementia. Symptoms of some mental diseases, such as sadness and psychosis, must be distinguished from those of delirium and dementia. As a result, a depression test, such as the Neuropsychiatric Inventory or the Geriatric Depression Scale, should be included in any dementia evaluation. Physicians used to believe that persons with memory impairments were suffering from depression rather than dementia.

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