

# The effects of noise, socioeconomic status and genetics in the relationship between air pollution and dementia

<https://www.neurodegenerationresearch.eu/survey/the-effects-of-noise-socioeconomic-status-and-genetics-in-the-relationship-between-air-pollution-and-dementia/>

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### Country

Sweden

## Title of project or programme

The effects of noise, socioeconomic status and genetics in the relationship between air pollution and dementia

## Source of funding information

Formas

## Total sum awarded (Euro)

€ 298,041

## Start date of award

01-01-2016

## Total duration of award in years

3

## The project/programme is most relevant to:

Alzheimer's disease & other dementias

## Keywords

### Research Abstract

Dementia is a feared disease and a prominent cause of death. The causes of dementia are not completely known even if age and carrying the fourth allele of apolipoprotein E are major risk

factors; at least in Alzheimer's disease, the most common form of dementia. Air pollution contribute to neuro degenerative disease, but not until recently the study of the relationship between pollution and dementia has begun. We are one of two research groups who have found that the risk of dementia increase by exposure of air pollution. The exceeded risk is about 65 %. However, the relationship between air pollution and dementia may be confounded or moderated by noise and socioeconomic status. Moreover, carriers of the fourth allele of apolipoprotein E could be more vulnerable to this type of exposure. Carriers of the second allele of apolipoprotein E on the other hand may be protected. We will investigate this by using the unique data base Betula Air which combines the longitudinal, well validated and reputed Betula data base with high qualitative air pollution and noise data. Furthermore, Betula Air will be completed with socioeconomic data at a neighborhood level to complement the already existing information at individual level. We plan three studies to investigate if the relationship between air pollution and dementia (i) is moderated or confounded by noise and/or socioeconomic status and (ii) if genetic make-up contribute to vulnerability or protection in this matter.

### **Lay Summary**

**Further information available at:**

**Types:**

Investments > €500k

**Member States:**

Sweden

**Diseases:**

Alzheimer's disease & other dementias

**Years:**

2016

**Database Categories:**

N/A

**Database Tags:**

N/A