

European Respiratory Society Annual Congress 2013

Abstract Number: 4454

Publication Number: P3624

Abstract Group: 6.2. Occupational and Environmental Health

Keyword 1: Air pollution **Keyword 2:** Quality of life **Keyword 3:** Epidemiology

Title: Quality of life in relation to the traffic indicators NO₂ and NO_x: Results from the Swedish GA2LEN survey

Prof. Bertil 28974 Forsberg bertil.forsberg@envmed.umu.se¹, Dr. Johan 28975 Nilsson Sommar johan.n.sommar@envmed.umu.se¹, Dr. Alexandra 28976 Ek alexandra.ek@ki.se², Prof. Sven-Erik 28977 Dahlen Sven-Erik.Dahlen@ki.se MD², Dr. Roelinde 28978 Middelveld Roelinde.Middelveld@ki.se², Dr. Anders 28994 Bjerg Bäcklund anders.bjerg@gu.se MD³, Ms. Helen 29007 Bertilsson helen.bertilsson@vll.se¹, Dr. Linda 29024 Ekerljung linda.ekerljung@gu.se³, Dr. Andrei 29027 Malinovschi andrei.malinovschi@medsci.uu.se MD⁴, Prof. Christer 29038 Janson christer.janson@medsci.uu.se MD⁴ and Bertil 29100 Forsberg bertil.forsberg@envmed.umu.se .¹ Occupational and Environmental Medicine, Umeå University, Umeå, Sweden, SE90187 ; ² CfA-The Centre for Allergy Research, Karolinska Institutet, Stockholm, Sweden, SE17177 ; ³ Krefting Research Centre, University of Gothenburg, Gothenburg, Sweden and ⁴ Respiratory Medicine & Allergology, Uppsala University, Uppsala, Sweden, SE75185 .

Body: Background Worsening of asthma has been found associated with traffic pollution indicators. Aims The aim of the study was to evaluate the impact of traffic pollution on quality of life in asthmatic subjects, individuals with CRS, and controls. Methods Within the Swedish GA2LEN Study, 605 asthmatics with and without CRS, 110 individuals with CRS only and 226 controls were surveyed. The mini Asthma Quality of life Questionnaire (mAQLQ), the Euro Quality of Life (EQ-5D) health questionnaire, spirometry, skin prick test, exhaled nitric oxide, smell test and peak nasal inspiratory flow were used. Air pollution levels at the home address were modeled using dispersion models. Results Levels of NO₂ (mean 10 microg/m³) and NO_x (14 microg/m³, IQR 8.7-70) were similar among groups (controls, asthmatics, individuals with CRS, and asthmatics with CRS). The mAQLQ overall score was not found associated with NO₂ or NO_x, with or without adjustments, and neither was scores within each of the four domains of mAQLQ: symptoms, activity limitations, emotional functions, and effects of environmental stimuli. The mean EQ-5D index value, based on the five dimensions mobility, self-care, usual activities, pain/discomfort and anxiety depression, was also found unrelated to NO₂ and NO_x. Stratification by condition did not reveal any differences in NO₂ or NO_x related effects. Conclusions Within these exposure levels, NO₂ and NO_x appear not to affect quality of life among controls, asthmatics, individuals with CRS, or asthmatics with CRS. This could perhaps be explained by selection bias related to susceptibility (avoidance), moderate exposure levels or confounders related to the type of residential area.