DIFFERENCE IN PERSONAL EXPOSURE TO PARTICULATE AIR POLLUTANTS IN USERS OF DIFFERENT TRANSPORT MODES (AUTOMOBILE, BUS, SUBWAY AND BICYCLE) IN SANTIAGO, CHILE: STUDY DESIGN

Pablo Ruiz, *School of Public Health, Faculty of Medicine, University of Chile, Santiago, Chile*
Dante Cáceres, *School of Public Health, Faculty of Medicine, University of Chile, Santiago, Chile*
Verónica Iglesias, *School of Public Health, Faculty of Medicine, University of Chile, Santiago, Chile*
Paulina Pino, *School of Public Health, Faculty of Medicine, University of Chile, Santiago, Chile*
Stephanie Mesías, *School of Public Health, Faculty of Medicine, University of Chile, Santiago, Chile*

Background and Aims: Daily, people can be exposed to high levels of air pollutants during their home-work trips because of their closer proximity to traffic emissions and their exposures may vary according to the mode of transport used (bus, automobile, subway and bicycle). Little is known about exposure to air pollutants in transport´s users in Chile, and even less is known regarding difference in exposure by transport mode. Here, we present a study that compares air pollutant exposures in users of different modes of transport in Santiago, Chile.

Methods: (Arial, 8pt, bold) We will conduct a first, observational cross-sectional study of personal exposure to air pollutants in users of different modes of transport in their normal routes. 68 volunteer subjects that have similar home-work routes will be recruited, allocating about 17 subject to each mode (bus, automobile, subway and bicycle). Each participant will perform its morning and evening trips as usual except that they will carry personal monitors to measure particulate air pollutants PM2.5 and ultrafine particles. Additionally, both PM fractions will be measured at a central site in order to separate the contribution of the transport microenvironment from the background. This study will be complemented with a second cross-sectional study where exposure in the different modes will be evaluated in an assigned route (Alameda Street in downtown Santiago) during morning trips. Data will be analyzed using regression models to compare the modes, and determine the effects of environmental factors such as temperature, meteorology, traffic density, and so on, on personal exposure levels.

Results: Some preliminary results are expected by the time of the conference.

Conclusions: identification of environmental factors that determine increases in pollutant's exposure may guide actions aimed to reduce people's exposure to air pollutants during their home-work trip.