



PM 0,5 and Health effects in an extreme pollution episode

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The mega cities' pollution problem during the last two decades, occupied the whole European scientific community, Asia and the U.S.A. The atmosphere remains suffocating due to rapid industrial development and the ever increasing traffic.

Registered health problems are numerous and dramatic in all ages groups, but particularly in infants, old people and patients suffering chronic diseases. After 1980 many governments applied restrictions to maintain a clearer atmosphere. Particulate matters are everywhere, they are inhaled, they enter the lungs, migrate through the blood stream and finally, they deposit in several organs which leads to severe consequences. Wind remains the only restraining factor of PM concentrations, but this is not the desired solution.

The issue of atmospheric pollution and its influence on health are both the main aim of this study, which consists of monitoring and mapping PM 0.5 in six areas of Athens and examining the relation of the quantity inhaled by pedestrians and number of health incidents during an acute pollution episode in GAA in November 2008. In this empirical model, values of PM inhaled by humans at a height of two metres above ground are shown as number/litre and $\mu\text{g}/\text{m}^3$.

In fact, a lot of patients appeared in the city's hospital emergency centres needing assistance. Most of them exhibit the PM symptomatology which includes: dyspnea, dry cough, lacrimation, headache, arrhythmias. This symptoms are firstly by K.N. Grigoropoulos et al. 2008 (Fresenius Environment Bulletin issue b September 2008, pp 1426-1431)

Although this situation is already widely known to everyone, governments continue to ignore it systematically. The time is probably right for the European Community to apply restrictions on PM1.