POTENTIAL HUMAN HEALTH EFFECTS OF ENVIRONMENTAL FACTORS AT LOCAL AND EUROPEAN LEVELS: DEVELOPMENT OF AIR QUALITY AND THERMAL STRESS INDEXES

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In the framework of the European project PASODOBLE (FP7), we set up downstream information services by combining environmental and health data with a view to support the health care community and to improve vulnerable people welfare. Indeed there is a profound relationship between human health, well-being and environmental parameters such as air pollution levels and heat. The main objectives are to establish correlations between environmental parameters, exposure of populations and their reactivity, to develop and validate air quality and thermal stress indexes and to construct a prediction model of these sanitary indexes. Those risk indicators, based on those recommended by organisations such as WHO and by local and national authorities, are then tested and analysed to reach a common methodology. These indexes will be implemented on 3 European sites: Greece (Athens and Thessaloniki), the Netherlands and "Provence Alpes Côte d'Azur" (South East of France). The selected region and cities are among the most affected by the atmospheric pollution in Europe. The Athens and Thessaloniki urban areas are among the most densely populated cities in Greece, which suffered severe air pollution problems during the last decades, mostly related to PM10 levels. The air quality, combined with the strong hot season of the Mediterranean climate, is known to be one of the worse in Europe, especially in summer, and leads to serious sanitary concerns. The service aims to provide up-to-date, detailed information on air quality and thermal discomfort. The air quality risk index is based on the Relative Risk associated with short-term exposure to common air pollutants and takes into account the possible adverse effects in line with the coexistence of all the pollutants. This information will be then pushed to health professionals for a validation and to check the usefulness of the information to them. Once validated and quality checked, the risk indicators will be provided to doctors that will disseminate the information to their patients. Depending on the gravity of the pathology of the vulnerable people, the risk index can be misinterpreted by the patient. Therefore, it must be first given to doctors and not directly to the patients. Training sessions, implemented by the European Medical Association, on the use and interpretation of this risk index will be then organized for doctors to be able to give the proper information with associated recommendations to their patients.

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