

Cuba

Report on EMF Activities

9th International Advisory Committee Meeting on EMF June 2004

In the 2003 Report we had informed, that the National Institute for Hygiene, Epidemiology and Microbiology and the National Healthy Housing Network of Cuba developed a research project evaluating the possible association between infant leukemia and residential exposure to electromagnetic fields in Havana City. On regards, this study chose data from year 1995 through 2000 in order to support a health surveillance system for electromagnetic fields in the future, which included the establishment of national standards for maximum allowable exposure, monitoring and calculation of sanitary protection areas.

From the project, the ecological branch and the case-control study were concluded with the following results:

- Prevalence and mortality due to leukemia show an increasing trend in the country with a greater number of cases in Havana.
- The ELF/EMF could be considered like an infant leukemia risk factor according to regression results at ecological scale and in case- control study with use of multiple correspondences, discriminant analysis, and logistic regression.
- The electrification indices are linked to infant leukemia incidence in the Havana municipalities.
- Primary and secondary electric field factors are conjugated in addition to the family cancer antecedents.
- Electric field variables, which define physical environment of cases, differ from control ones.
- More than half of reported illnesses are properly classified with use only of following predictors: “Cancer antecedents in relatives, exposure to unprotected electric networks and electromagnetic fields at housing”.
- Physical, Biological, and Chemical factors are identified as infant leukemia individualized risk factors in Havana, but when adjusting by confusion factors it turned out that the more significant OR were:
 - In the general model, the electromagnetic fields at housing, tobacco smoke during pregnancy, cancer antecedents in relatives and environmental toxics.
 - In the prenatal model, electromagnetic fields at housing, cancer antecedents in relatives and tobacco smoke exposure

- In the post-natal model, Respiratory diseases antecedents and electric networks.

Currently, database containing ELF measured values –magnetic component- either inside or outside the studied housings is carefully analyzed as well as outcomes of radiation gamma profile.

An special report, including above mentioned results, presented to the Congress on Environmental Health, held a month ago in Porto Alegre, Brasil, sponsored by the Inter American Association of Sanitary Engineering, received first prize among all other papers, winning the PETROBRAS Environmental Health Award.

Furthermore, the National Institute for Hygiene has worked together with the Nuclear Security Center and the Engineering and Project Enterprise of the Electric Union -specifically the High Voltage Electric Section- in a delimitation proposal of sanitary protection zones for high tension air wiring on residential sector.

The project “*Influence of Harmful Radiations, Technological and Natural in the genesis of some types of Cancer*” reported by the national Institute of Oncology addressed to the province of Villa Clara is running without reported results so far.

The Directory for Standardization and Regulations, linked to the Ministry of Informatics and Communications has carried out an international standardization compilation on non ionizing radiations.

During next December, the First Electromagnetic Fields and Health workshop will be held at Havana in which, research results on non ionizing radiation topics will be discussed, and criteria for guidelines on non-ionizing radiation exposure limits for the country will be explored. These workshop would be sponsored by the “Cuban Healthy Housing Network”.

Havanna, June 19th 2004.