

ASSESSING THE ASSOCIATION BETWEEN AIR POLLUTION FROM INDUSTRIAL CHEMICAL COMPLEX "RANAT HOVAV", ADULT MORBIDITY AND MORTALITY IN SOUTHERN ISRAEL USING AN INTEGRATED COMPUTERIZES INFORMATION SYSTEM

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Background: The existence of causal associations between levels of industrial air pollutants, morbidity and mortality is well established. This study evaluated the feasibility of establishing and maintaining an ongoing integrated computerized information system (ICIS) to estimate and monitor association between mortality rates among Jewish and Bedouin adult population of the Negev, and environmental air pollution by about 100 chemicals, from air monitoring stations of the industrial complex Ramat Hovav (RH).

Methods: We intend to develop the ICIS system for monitoring chronic diseases morbidity and all-causes and cause-specific mortality in the Negev region, for adult Jews and Bedouins in the Negev based on the linkage of several data sources in an ongoing manner. These are; a) Beer-Sheva regional office of Ministry of Health (MOH) computerized mortality database (mortality causes, socio-demographic details, place of residence since 2004 and occupation from personal interview); b) A sample of the Health maintenance Organization's Negev population; c) Soroka Hospital hospitalizations records; d) Data of air pollutants emissions from RH by date.

Results: The current analysis was based on data for sample of 100,000 health insured Jewish and Bedouin patients (the settlements served as a statistical unit), mortality data from MOH and air pollutant concentrations, as recorded by monitoring stations of RH for 2007-2010. The overall and cause-specific mortality rates were calculated, continuous air pollution values were cut off by national "Almog" and international Texas reference. Data was linked to measurements of air pollutants from the air dispersion AERMOD models using GIS.

Conclusions: Low rates of excess pollutant levels were shown. Since the long-term exposure to low doses environmental hazards have important impact on human health we intend to use the air pollutants concentration in their original continuous scale in future work and meteorological data will also be taken into account.