
Public Concern about Chemicals in the Environment: Regional Differences Based on Threat Potential

HOLLY L. HOWE, PhD

The author is Chief, Division of Epidemiologic Studies, Illinois Department of Public Health. She was a staff member of the New York State Department of Health, which funded the project.

Teasheet requests to Holly L. Howe, PhD, Chief, Epidemiologic Studies, Illinois Department of Public Health, 605 W. Jefferson St., Springfield, IL 62761.

Synopsis

While the hazards of chronic environmental pollution remain unclear, people are making decisions about their exposure to pollution and its possible effects on their health. To compare people's concerns about environmental problems, a systematic, stratified sample

was surveyed. The sample was made up of residents, ages 25 through 74 years, of three areas of New York State. The three areas were western New York, with a high density of toxic dump sites; Long Island, with a major shallow ground water aquifer; and the remainder of the State, excluding New York City, as a comparison area. The sampling list was obtained from records of licensed drivers of the New York State Department of Motor Vehicles. A 66 percent response rate was obtained to the mailed survey.

As expected, most concerns were greater for western New York and Long Island, the two areas with highest threat potential for exposure or contamination, than for the comparison area. The single exception was that no regional differences were noted for concerns about environmental pollution and contamination. All concerns were associated with perceived distance between one's residence and a source of potential exposure. Regardless of region, women were more concerned than men about exposures, pollution, and related health effects. No sex differences, however, were noted for economic concerns.

DESPITE THE AMBIGUITY of the hazards of chronic environmental pollution by chemicals, people are making decisions every day about their exposure to chemicals, and the possible subsequent effects of toxic substances on their health. Their decisions often are based on fragmentary evidence that, at best, is scientifically questionable. With the same information, some people conclude that a given situation is harmful, while others do not.

One of the purposes of this research was to determine whether public concerns about chemical contamination of the environment and the population's exposure to the contamination varied within and among three New York State regions, each region differentiated by its sources of potential contamination. Two of the regions have unique environmental situations: western New York has a high density of toxic waste disposal sites (1), and Long Island has a large and shallow ground water aquifer (2).

The two environmental situations pose a substantial potential threat for contamination because of the size of the population that could be affected on Long Island, and the sheer number and volume of the point sources with potential for contamination in western New York. The third survey area, the remainder of New York

State except for New York City, was surveyed for comparison purposes.

Methods

Sample selection. A list for sampling was obtained in 1985 from the New York State Department of Motor Vehicles. The list included both men and women residents of New York State, excluding New York City, ages 25 to 74, who had obtained a new license or who had renewed their driver's license within the previous year. The list included the residents' names, addresses, and birth dates.

A systematic, stratified sample, starting at random, of 7,533 residents was selected from the records of licensed drivers. Among New York State residents, excluding New York City, 84.8 percent of those ages 25 and older had a license to drive in 1982. The sample strata, each with about one-third of the sample, were western New York, consisting of Erie and Niagara Counties; Long Island's Nassau and Suffolk Counties, and the central and eastern area, the remainder of the State, except for New York City. A questionnaire was mailed to each person with a cover letter and a self-addressed, permit return envelope. The followup proce-