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Letters

Leukemia study has limitations

In "Kids' leukemia from parents' exposure?" (SN: 7/18/87, p.38) reporter Janet Raloff describes the extraordinary results of the epidemiology study by Ruth Lowengart and co-workers. The Lowengart work is provocative in suggesting a heretofore never imagined hazard; however, the study should not be taken as final proof of a leukemia link [to certain chemicals]. Your readers should be aware of the limitations of this and other studies.

The investigators used telephone interviews for all responses. Phone inquiries are subject to bias, particularly if not conducted blindly, and for this study blinding was said to

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Cover: The Etruscan Venus is a geometrical surface that happens to have only one side. It can be thought of as the three-dimensional "shadow" cast by a particular four-dimensional form. The computer-based techniques that led to the surface's recent discovery have resulted in improved methods for programming computers to draw surfaces, suggestions for new mathematical theorems and a novel method for creating sculptures. (Illustration: Cox, Idaszak & Francis)



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be "not feasible" for some reason. One obvious bias would be for the parents with children having leukemia to overstate chemical exposure, because scientific support for linking leukemia to occupational exposure would provide a legal avenue for compensation claims. Controls have no such incentive.

Fundamental to any scientific study concerning toxic substances is the need to determine a dose of the toxic agent. "It is only the dose that makes the poison" is the fundamental paradigm of toxicology. But the investigators relied entirely on the subjects' telephone recollections of the substances used and the duration of exposure. No attempt was made to confirm the stated exposures by contacting the subjects' employers, and the investigators say they were unable to assess the intensity of the exposures.

The research appeared to be designed to target chemicals and deemphasize other factors. The authors claim that "adjusting" for parents' smoking, drinking and dietary habits plus mothers' medication during pregnancy does not significantly alter their findings. Confirmation of these assertions must wait for "a later publication" with more detail.

SCIENCE NEWS would do well to report on other scientists' efforts to quantify risks and thereby put the risks of chemicals in perspective. If the Lowengart study diverts public attention away from known, serious hazards like smoking and AIDS, then its impact may be detrimental, not helpful to public health.

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