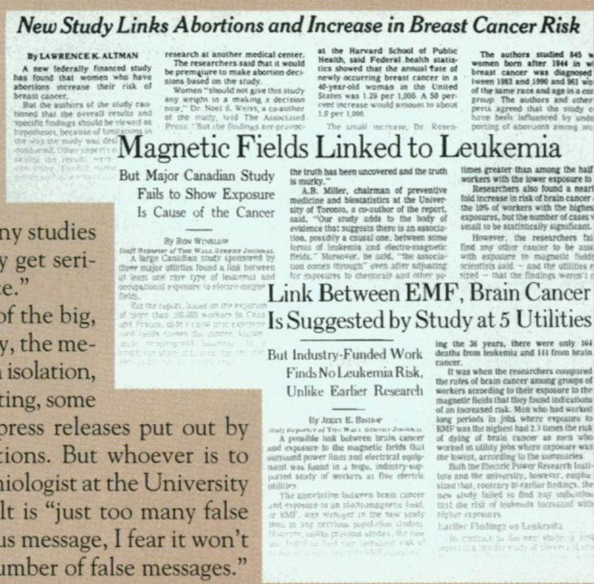
Press Coverage: Leaving Out the Big Picture

In the past 2 years, thorough readers of the *Los Angeles Times* would have learned about an extraordinary range of potential cancer causes. Among these putative hazards of modern life are hot dogs, breast implants, dioxin, stress, asbestos, allergy drugs, gas leaks, living in Orange County, tubal ligation, sunscreen, Asian food, pesticides, vasectomy, liquor, working in restaurants, Retin-A, vegetables, dietary fat, delayed child-bearing, impurities in meat, and lesbianism. This litany of fear was accompanied by a similar, although shorter, series of reports on dietary habits and lifestyles that may reduce cancer risk. Parallel coverage appeared in other newspapers and magazines and on television. To many scientists, though, the media would do well to curb its appetite for such news.

The problem, many researchers say, is that journalists often misunderstand the context of the research. Because of the limitations of risk-factor epidemiology, most individual studies cannot produce authoritative findings (see main text). "Articles published in medical journals are often misconstrued by the lay press to be more definite than they really are," says Larry Freedman, a biostatistician at the National Cancer Institute. "Broccoli prevents cancer, garlic prevents cancer—all these things do appear in the literature. But epidemiologists understand very well that these studies are far from definitive. It's only when a body of evidence exists over many, many studies that epidemiologists should really get serious about giving the public advice."


New Study Links Abortions and Increase in Breast Cancer Risk

By LAWRENCE K. ALTMAN

Magnetic Fields Linked to Leukemia

But Major Canadian Study Fails to Show Exposure Is Cause of the Cancer

By RON WINSLOW
Staff Reporter of THE WALL STREET JOURNAL

Link Between EMF, Brain Cancer Is Suggested by Study at 5 Utilities

But Industry-Funded Work Finds No Leukemia Risk, Unlike Earlier Research

By JERRY E. BISHOP
Staff Reporter of THE WALL STREET JOURNAL

Instead of presenting surveys of the big, evolving picture, he and others say, the media tend to report each new study in isolation, as a new breakthrough. Such reporting, some scientists say, is encouraged by press releases put out by journals and researchers' institutions. But whoever is to blame, says Noel Weiss, an epidemiologist at the University of Washington, Seattle, the result is "just too many false alarms. When we do have a serious message, I fear it won't be heeded because of the large number of false messages."

One example is an item from *Time* magazine's "Health Watch," which tersely summarizes recent research. Published last January, the item read, in its entirety, "Olive oil seems to do more than make food taste good. Research indicates that women who consume olive oil more than once a day reduce their risk of breast cancer 25% compared with women who don't." *Time* didn't mention that the risk reduction is smaller than many epidemiologists think can be reliably detected in an observational study. Nor did it point out that the study—apparently a study of 1750 Spanish women reported several weeks earlier in the *International Journal of Cancer*—is in conflict with many other studies suggesting that dietary fats may raise rather than lower the risk of breast cancer. Although the overall fat–breast cancer link is disputed, and olive oil may pose less cardiovascular risk than other forms of fat, few epidemiologists would interpret these findings as indicating that women should "consume olive oil more than once a day."

In their proclivity for "news," newspaper and television reporters not only single out weak studies; they may focus on the one positive result in a sea of negative data. That was the case with coverage of two big studies on occupational exposure to electromagnetic fields (EMF) that appeared recently in the *American Journal of Epidemiology*. The first study, of 223,000 French and Canadian electric utility workers, found no link between EMF and 25 of the 27 varieties of cancer in the study; the exceptions, two rare types of leukemia, had a weak and inconsistent positive association with EMF. Yet the *Wall Street Journal* reported the study last spring under the headline, "Magnetic Fields Linked to Leukemia."

Early this year the *American Journal of Epidemiology* published the second study, on 139,000 workers at five U.S. utilities. It found no association between exposure to EMF and 17 of 18 types of cancer, including the leukemias linked to EMF by the first study. The sole exceptions were eye and brain cancers—conditions that had shown no link to EMF in the first study. Yet the headline of the *Wall Street Journal* article that reported the second study was "Link Between EMF, Brain Cancer Is Suggested by Study at 5 Utilities." Says Jerry Bishop, who wrote one of the *Wall Street Journal* articles, "People are not interested in what diseases [a risk factor] doesn't cause, but what it might cause. ... We've had this argument with scientists many times over the past few years."

In October, the *New York Times* provided another example, when it reported on a study in the *Journal of the National Cancer Institute (JNCI)* from the Fred Hutchinson Cancer Research Center in Seattle that suggested induced abortion might increase the risk of breast cancer by 50%. Although the article noted that 40 previous studies of abortion and breast cancer had found no such correlation, the headline read "New Study Links Abortions and Increase in Breast Cancer Risk." Inevitably, public attention was directed to a risk that is unlikely to be real.

If there is "blame" for such coverage, argues Lawrence Altman, author of the *Times* article, much of it belongs to scientific journals. "The *JNCI* sent out a big release touting that study as if it were the biggest thing since whatever," he says. "I don't recall them telling us that it was only one of 40 studies and probably had little meaning."

In Altman's view, epidemiologists who complain about press coverage are trying to have it both ways. "Scientists supposedly want us not to go outside the scientific process, but wait until findings have appeared in a peer-reviewed professional journal. When we do that, they apparently complain that we didn't go outside the scientific process and say that a published report is meaningless."

"Journalists do overemphasize individual studies, but they are often invited to do that [by medical journals]," agrees Ross Prentice, one of Weiss's colleagues at the University of Washington. "I've seen some of the press releases that journals and universities send to journalists. It's a wonder sometimes that the reporting is as good as it is."

–Charles C. Mann

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