



Story on phytoestrogen cancer risk misses important point.

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A story filed via Reuters reports on a new study that concludes dietary phytoestrogens have little impact on the risks of developing hormone-sensitive cancers. But the study and the story miss the main public health concern about phytoestrogens entirely: The role that exposure during fetal life and infancy may play to disease – including cancer – later in life.

Rachael Myers Lowe writes about a study published in the American Journal of Clinical Nutrition finding "little evidence" that eating phytoestrogens is "associated with subsequent risk of breast or prostate cancer." The study's adult participants reported their consumption habits for a week and were then monitored for breast, colorectal and prostate cancers during the subsequent 12 months.

But, a bigger environmental health concern is not addressed because the study and the story focus on adult exposure. It is becoming clear that developmental exposures to phytoestrogens have a bigger influence on disease than exposures during adulthood.

Phytoestrogens are natural chemicals found in plants. Well known sources are soybeans and other legumes. They also are generated in the gut as microbes process meat and dairy products.

That is useful information but hardly sufficient to conclude that "dietary phytoestrogens have little impact on the risks of developing hormone-sensitive cancers," which is what Lowe reports.

There are two reasons why her statement is off base. First, the actual conclusion of the study, as summarized in the paper's abstract, is a little different: "Dietary phytoestrogens may contribute to the risk of colorectal cancer among women and prostate cancer among men." The study's results are specific to adults and indicate the risk of developing cancer from eating the compounds may be low.

Second, this study asked a legitimate question about associations between adult exposures and adult disease. However, research over the past decade strongly indicates that developmental exposures earlier in life can play a very important role in causing adult disease. This is being demonstrated for a wide array of chemicals, including phytoestrogens. Animal research on the health risks of soy phytoestrogens points to fetal and infant life as the window of greatest vulnerability.

Retha Newbold and colleagues at the National Institute of Environmental Health Studies have pursued this extensively. In 2001, Newbold and her colleagues reported that the soy phytoestrogen, genistein, causes the same type of uterine cancer in mice that diethylstilbestrol causes in mice and in people. A later study with rats found effects on female mammary glands. And most recently, a five-generation study of the effect of soy phytoestrogens on rats finds that they caused abnormal cell growth in male mammary gland tissue.

The article would be stronger if Lowe had drawn attention to this key weakness that undermines the generality of the study's results.