

UNMC researchers say farm chemicals may pose cancer risk

Written by Gothenburg Times
Thursday, 04 March 2010 16:29 -

A recent University of Nebraska Medical Center research study has found that farm women who work with common pesticides have a greater risk of thyroid disease.

UNMC researchers found 12.5% of the women had thyroid disease compared to 1 to 8% in the general population. They evaluated data of 16,529 women married to farmers licensed to apply pesticides in Iowa and North Carolina.

The data are from the Agricultural Health Study, a long-term study of licensed pesticide applicators, sponsored by the National Institute of Environmental Health Sciences (NIEHS) and the National Cancer Institute.

Though the data in the study focused on Iowa and North Carolina, farm practices are similar in Nebraska. The study is the first and largest to show an association between pesticide exposure and thyroid disease. Up until now, most of the studies in humans have not been large enough.

Thyroid disease, which includes hypothyroidism, hyperthyroidism, thyroid nodules and enlargement, when left untreated can be serious. Symptoms of hypothyroidism—an underactive thyroid—include weight gain, fatigue, hair and skin changes, and sensitivity to cold temperatures. Hyperthyroidism—an overactive thyroid—can be associated with weight loss, higher heart rate, eye and skin changes, and heat sensitivity.

The researchers evaluated five commonly used insecticides and 39 other pesticides. The study was published in the American Journal of Epidemiology.

“There is increasing evidence that environmental exposure to pesticides should be considered a potential risk factor for thyroid disease,” said Whitney Goldner, M.D., assistant professor, UNMC Department of Internal Medicine, and one of the paper’s authors.

“Certain insecticides, herbicides and fungicides have been previously reported to be endocrine disrupters, which can interfere with the endocrine system,” Dr. Goldner said. “They may have a

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bigger role than we've given them credit for and we need to explore this further.”

The study showed an association between insecticides and fungicide exposure and hypothyroidism. There was also an association between one of the fungicides and hyperthyroidism.

Dr. Goldner added that it's important that those exposed to pesticides be aware of the potential risks and know the signs and symptoms of thyroid disease.

Researchers from the NIEHS were co-authors on the paper.