

The Canadian Press - ONLINE EDITION

Too much sodium, not enough potassium in the Canadian diet: research

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Posted: 06/13/2011 11:42 AM | [Comments: 0](#)



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Helene Charlebois is surrounded by fruit and vegetables in her office Thursday June 9, 2011 in Ottawa. THE CANADIAN PRESS/Fred Chartrand

TORONTO - Most Canadians aren't getting enough potassium in their diets, according to research that looked not only at the element symbolized by the letter K, but reaffirmed that we're laying it on too thick with the sodium, or Na.

The conclusions were published earlier this month in the Canadian Journal of Public Health. Researchers combined dietary intake recall data from the Canadian Community Health Survey with a Total Diet Study that involved 930 foods, including different brands purchased at stores in Vancouver. Food samples were prepared as if for home consumption at a laboratory at the University of Guelph, with no salt added to the foods during or after cooking.

Then, each meal and snack was analyzed for sodium and potassium using atomic spectroscopy techniques.

And now, the first baseline data exist that will allow Health Canada to track future changes in the Canadian food supply following the release of Sodium Working Group guidelines last July.

"The study confirms that Canadians eat too much sodium and too little potassium," co-author Kevin Cockell, head of Nutrition Research at Health Canada, said in an email

response to questions.

"A diet high in sodium is associated with an increased risk of high blood pressure. High blood pressure is a major risk factor for stroke, heart disease and kidney disease."

Healthy adults only need 1,500 milligrams per day of sodium, and healthy children need 1,000 to 1,500 mg a day, he said. An adequate intake of potassium in adults is 4,700 mg a day.

"Getting this amount of potassium from foods should help to maintain lower blood pressure and may help to reduce the adverse effects of too much sodium on blood pressure," Cockell wrote.

The analysis found that males were generally more successful than females in ingesting adequate amounts of potassium.

We've heard a lot about how to reduce sodium in our diets, mainly by avoiding processed foods. But how, exactly, does one ingest more potassium?

Fruits and vegetables are really high in potassium, mostly the orange and red ones, says dietitian Helene Charlebois. In particular, she points to potatoes, sweet potatoes, citrus, cantaloupe, kiwis, and pretty well any other orange or red fruit or vegetable.

But once a white potato is fried in fat, you lose some potassium content, she cautioned.

"The sodium in our diets has not been put there by Mother Nature, it has been put there by the food industry, and that's why we're eating too much sodium because we're eating too many processed foods," Charlebois said from Ottawa, where she works as a nutrition and wellness consultant.

"But the potassium was not put there by the food industry. It was put there by Mother Nature, and so we're eating less Mother Nature foods and the dairy products."

Sodium, potassium and chloride have to be kept in balance because "they're kind of the spark plugs of the body. They cause the sparks everywhere. So if these sparks aren't happening, then you're not going to get muscle contraction. You're not going to be able to walk."

The Journal of Public Health study said milk and dairy products and fruit made substantial contributions to the potassium intakes of Canadians. But as age increased, the contribution of milk and dairy products declined and contributions by vegetables and meat, poultry and fish increased.

Besides the items mentioned by Charlebois, the new fourth edition "Low-Salt Cookbook" from the American Heart Association (Clarkson Potter) lists a variety of foods that are rich in potassium.

These include halibut, white beans, tomatoes, acorn squash, bananas, spinach, trout, lima beans, lentils, kidney beans, edamame, top sirloin and pork chops.

Potassium supplements aren't advised, according to Cockell and Charlebois.

"Studies to date have shown that the benefits of potassium are best obtained through food," Cockell wrote.

A potassium intake of 4,700 mg per day for adults with normal kidney function does not pose a risk because potassium is readily excreted in the urine. People with impaired excretion of potassium in urine might need a lower intake, Cockell said.

Charlebois said that if we want the Canadian population to consume more fruits, vegetables, milk and dairy products, then education is needed on why it's important, "because we can't make an apple sexier."

"We can maybe make it easily packaged, though," she said.

"If I'm going to stop and peel an orange in the middle of a hockey game or if I'm going to stop and peel an orange on the golf course, you're going to get your hands all mucky. So I think the food industry can work on making it more accessible to us in an easier format, like they've done at some of the fast-food places with apple slices.

"So I think the food industry has a role to play."