

Canola oil protects against colon cancer, study finds

April 13 2011

(PhysOrg.com) -- A first-of-its-kind study of canola oil finds that it reduces the size and incidence of colon tumors in laboratory animals, a South Dakota State University scientist says.

The research suggests using canola oil in household cooking may protect against colon cancer development.

Distinguished professor Chandradhar Dwivedi, head of SDSU's Department of Pharmaceutical Sciences, led the study. He and his colleagues published their journal article on the topic, "Chemopreventive Effects of Dietary Canola Oil on Colon [Cancer Development](#)," in the February 2011 issue of the journal *Nutrition and Cancer*.

"This is the first time anyone has done work on the effect of canola oil in animals on colon cancer prevention. Canola oil was able to reduce the incidence of colon cancer in animals almost to one-third," Dwivedi said.

The study showed that canola oil inhibited the average number of tumors per rat by 58 percent compared to one of the other two control diets in the experiment, and inhibited the size of the tumors that occurred by 90 percent.

Colon cancer causes more deaths than any other form of cancer in men and women in the United States. American Cancer Society statistics say there were about 102,900 cases of colon and 39,670 cases of rectal cancer in 2010, resulting in an estimated 51,370 deaths.

Dwivedi said professor Padmanaban Krishnan in SDSU's Department of Health and Nutritional Sciences suggested the study of canola oil's potential in protecting against [colon cancer](#) because Dwivedi had already led similar studies looking at the cancer-fighting properties of flaxseed meal and flaxseed oil. Krishnan was one of the collaborators in the study. The project was carried out under the auspices of grants from North Central Canola Research, North Dakota State University, and National Canola Growers. Value addition of oilseeds is also supported by the South Dakota Agricultural Experiment Station.

Flaxseed oil has a much higher level of Omega-3 fatty acids that are partly responsible for the health benefits — more than 50 percent compared to about 10 percent in canola oil — but canola oil may be easier to include in a typical American diet.

“The advantage of canola is it can be used for day to day cooking, frying and anything else, in contrast to the flax,” Dwivedi said. “You could not use flax oil for frying. If people start using canola oil, replacing other oils with canola oil, it gives them the advantage of including Omega-3s in their diet.”

Dwivedi adds that studies have indicated that if consumers use canola as household cooking oil, it could push their ratio of Omega-6 to Omega-3 fatty acids to about 3 to 1. That's very desirable. Humans need Omega-6 fatty acids, too, but they typically consume way too much of them in countries such as the United States.

“It should be less than 4 to 1. But in a typical American diet, when we use other oil and butter, our ratio is 10 to 1 or higher. We consume a lot more Omega-6 than Omega-3 fatty acids,” Dwivedi said. “So anything we could do to bring that ratio more in favor of Omega-3 is always good.”

The research builds on earlier studies by Dwivedi and his colleagues suggesting that Omega-3 fatty acids have a chemopreventive effect by inhibiting an enzyme called cyclooxygenase and reducing the synthesis of arachidonic acid, both of which are associated with inflammation.

Provided by South Dakota State University

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