Children's Nutrition Research Center

Nutrition & Your Child

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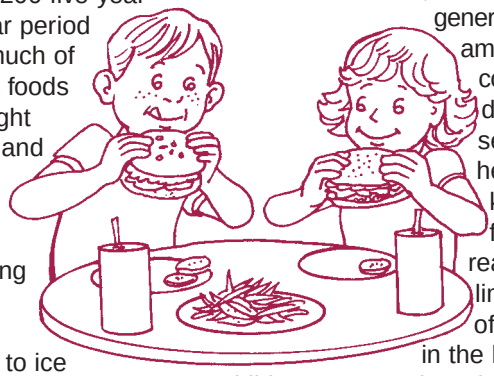
FOOD-POLICING POLICIES CAN ARREST KIDS' SELF-CONTROL

Despite the attractiveness of such a straightforward approach, restricting a child's access to high-fat, high-sugar foods does little to promote healthy eating habits, according to a recent CNRC study.

In the study, CNRC behavioral scientist Dr. Jennifer Fisher discovered that the tendency of young girls to over-indulge in snack foods when not hungry increased when their parents were in the habit of tightly controlling what their daughters ate.

"In this study, the tendency to eat in the absence of hunger appeared to be in part a result of parental restrictions," said Fisher, also an Assistant Professor of Pediatrics at Baylor College of Medicine. "Kids, just like adults, don't like to be told what they can't do."

For the study, Fisher monitored the eating habits of nearly 200 five-year-old girls over a two-year period to see what and how much of several tempting snack foods they would consume right after eating a full meal and were no longer hungry.



The study also measured parental restriction by determining the extent to which parents typically gave their daughters access to ice cream, chocolate candy, potato chips, and the other "kid-friendly" snack foods used in the study. Examples of restrictive parental behavior included getting upset if their child obtained these types of foods without asking, monitoring the child's consumption of these foods, generally limiting the amount consumed, denying second helpings, keeping the food out of reach, and limiting how often the food is in the home. Children's perception of parental restriction was also assessed.

Fisher found that, despite their reported lack of hunger, few girls could resist the temptation to nibble on at least some of the 10 snack foods that were placed in the observation room with them following lunch.

"Although nearly all girls snacked, we found that over the course of the study, some girls seemed to just nibble, while others consistently consumed a lot of food when they weren't hungry," she said.

Fisher also discovered that girls whose parents tended to tightly control what their daughters ate at age 5 ate significantly more snack-calories throughout the study than those with less

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CNRC SCIENTISTS LEAD NATIONAL SOY SUPPLEMENT STUDY

CNRC researcher Dr. William Wong is leading a national study to determine the benefits of over-the-counter soy supplements in the prevention of osteoporosis in postmenopausal women.

The $4.5 million project, named OPUS (Osteoporosis Prevention Using Soy), will determine the benefits, safety, and correct dosages of soy isoflavone supplements. The project will enroll 400 women at three sites across the country and follow them for two years.

"The use of over-the-counter soy isoflavone supplements is becoming common for postmenopausal women as prevention for osteoporosis," said Wong, a Professor of Pediatrics at Baylor College of Medicine. "But, no study has been done to determine its long-term safety and the benefits for this use."

More than 20 million American women have osteoporosis. Postmenopausal women are particularly susceptible because estrogen production has stopped. Estrogen replacement has been shown to reduce bone loss and fractures, but it carries some risks.

"Hormone replacement therapy provides many benefits for some women, but the possible side effects have to be weighed," said Wong. "If we can determine that natural soy isoflavones would be beneficial in preventing osteoporosis, as well as provide relief for some symptoms of menopause, it would be a tremendous service."

Soy isoflavones have a chemical structure that is very similar to estrogen, with estrogenic activities that are present but in a weaker format, he said.

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VOLUNTEERS

Houston-area volunteers are needed to participate in the following studies.

Transportation/parking available. For more information, visit the CNRC website: www.bcm.tmc.edu/cnrc/volunteer.htm

New!! OPUS Study

Normal weight, post-menopausal women between the ages of 40 and 60 are needed for a new, two-year study evaluating the benefits of soy isoflavones in the prevention of bone loss. Call the OPUS hotline at 713-798-6783.

Babies First Study

Breast-fed and bottle-fed infants, 2 to 11 months of age, and their mothers are needed for a study on infant eating patterns, food preferences, and growth. Stipend. Call the BabiesFirst hotline at 713-798-6740.

Metabolism Studies

Normal-weight children ages 6 to 9 and 13 to 17, overweight teens ages 13 to 16, and normal-weight, healthy adults ages 18 to 35 are needed for metabolism studies. Stipend. Call Andrea, 713-798-7083.

Boy Scouts Achievement Badge Programs

Boy Scouts ages 11 to 14 and their troops are invited to participate in two new internet-based badge programs that focus on healthy eating and physical activity. Contact Ivan, 713-798-6781 or Ariella, 713-798-7140, or visit http://www.bcm.tmc.edu/cnrc/boyscouts/.

BoneMax

Boys and girls ages 9 to 12 are needed for a one-year calcium-metabolism study. Stipend. Contact Keli, 713-798-7085, or Holly, 713-798-7166.

Viva La Familia

Hispanic families with children 4 to 18 years of age are needed for a study aimed at understanding the factors causing childhood obesity. Stipend. Contact Marilyn, 713-798-7002.

Breastfeeding Study

Pregnant women in their last trimester who plan to breast-feed for at least three months and new mothers currently breast-feeding infants between 2 weeks and 2 months of age are needed for a study of breast-milk sugar production. Stipend. Call Andrea, 713-798-7083.

Biological Diversity of Growth

Any child up to 22 years of age who has previously participated in CNRC studies involving body composition measurements and Hispanic, African-American, and Caucasian young adults 19 to 22 years of age are needed for a study on growth. Stipend. Call Marilyn, 713-798-7002.❖

FOOD-POLICING POLICIES CAN ARREST KIDS'SELF-CONTROL *(Continued from page 1)*

controlling parents. The study also revealed that those who tended to consume the most snacks when not hungry were more than four times as likely to be overweight at both 5 and 7 years of age. Consumption of snacks during the study sessions ranged from 0 to nearly 450 calories.

"These links help us understand how children learn to feel about food," Fisher said. "Eating is an important part of who we are as families and as a society."

Fisher believes that parental restriction may focus children's attention away from their own hunger and fullness cues. This is important because adults who consciously self-restrict what and how much they eat tend to have lower physical self-appraisal and self-esteem.

According to Fisher, the study suggests that a less restrictive approach that includes palatable, energy-dense foods as part of a well-varied diet could help young girls stay in touch with their own fullness cues and maintain a healthy view of their own eating. However, she also stresses that this does not mean that parents should let kids eat whatever and whenever they wish.

"Structure plays an important role in the development of children's eating behavior," she said. "Parents should retain responsibility for deciding what, where, and when children are offered food, but children should be allowed to decide whether and how much they will eat." ❖

SUPPLEMENT STUDY *(Continued from page 1)*

Although preliminary studies have indicated that soy isoflavones can help in preventing osteoporosis and reducing the symptoms of menopause, the studies were short-term.

"We need a long-term study that involves hundreds of volunteers to be able to give women and their physicians answers. Does this work or not? Is it safe over the long-term and how much should we give?" he said.

In the study, one-third of the participants will receive 120 mg. of supplements a day; one-third will receive 80 mg. a day; and one-third will receive a placebo. Each participant will take three tablets a day, along with a multivitamin and a calcium supplement.

As part of the study, which is funded by the U.S. Department of Agriculture, a plan has been established to disseminate the results to researchers, educators, health care professionals and consumers through Texas A&M University and the Cooperative Extension System.

In addition to Wong, Drs. Paula Amato and Ronald Young with Baylor's Department of Obstetrics & Gynecology, as well as Drs. Kenneth Ellis, O'Brian Smith, Kennard Fraley and Karen Konzelmann from the CNRC are working with the Baylor arm of the OPUS project.

Along with the Baylor site, women will be enrolled at the University of Georgia and the University of California at Davis.

To learn more about enrolling in this study, call the project's recruitment hotline: 713-798-6783.❖

Got Caffeine?

If getting kids up for school in the morning is a major headache, it might be wise to give their caffeine levels a check.

"The stimulating effect of caffeine can last up to three to four hours after consumption," said Dr. Janice Stuff, a CNRC nutrition researcher. "As a result, kids who reach for caffeine-containing beverages in the evening can have trouble falling and staying asleep at night, which can make it harder to get them up in the morning."

Caffeine is a mild stimulant considered safe in moderate amounts. For older teens and adults, a moderate amount is 200 milligrams per day, or about two 6-ounce cups of coffee. For younger children, experts suggest keeping caffeine levels below 50 milligrams a day, or the amount found in one 12-ounce soda.

"The problem is that many kids drink more than one soda per day," Stuff said.

The increasing availability and serving sizes of soft drinks and coffees can add to the problem. Vending machines regularly sell 20-ounce bottles, while a super-sized convenience-store beverage can range from 48 ounces to 64 ounces.

"It's easy to understand how parents can lose track of just how much caffeine their children are consuming," she said.

In addition to sleep problems, kids whose caffeine intakes go unchecked are also more likely to suffer the negative effects of excess caffeine, as well as withdrawal symptoms if their intake of caffeine suddenly goes down.

"Too much caffeine can cause upset stomach, anxiousness, and jumpiness"; Stuff said. "While a sudden decrease in caffeine consumption can cause headaches, irritability, and restlessness."

Pediatric experts are also concerned that drinking large amounts of soft drinks and coffees could "squeeze out" healthier foods from a child's diet and contribute to weight problems.

"This is really something for parents to talk to their children about," said Stuff. "Do they realize that a 48-ounce super-size cola can contain up to 600 calories and 200 milligrams of caffeine? Probably not."❖

To help children improve their beverage choices, Stuff offers the following strategies:

- Opt for decaffeinated or caffeine-free versions of soft drinks, coffees, and teas. Also don't forget that beverages like milk, water, and fruit juice are part of a healthy diet.
- Down-size soft-drink, coffee, and tea purchases.
- Watch the time. Avoid consuming caffeine-containing foods, medications, and beverages within four hours of bedtime.
- Check the label. Although two products may seem identical, one may be caffeine-free while the other is not. Also keep in mind that some citrus-flavored soft drinks contain more caffeine than colas. Caffeine is also a common ingredient in some over-the-counter medications.

Also see: http://ific.org/pdf/CaffeineIFICReview.pdf
http://www.cspinet.org/new/cafchart.htm

Fortification study benefits Indonesian children

Children in Indonesia have a better chance of growing taller and healthier thanks to CNRC researchers.

"Indonesian children, like those in many developing countries, suffer high rates of zinc deficiency," said Dr. Ian Griffin, a CNRC mineral researcher and Assistant Professor of Pediatrics at Baylor College of Medicine. "However, there has been little understanding of how best to address this problem until now."

Zinc deficiencies are common in developing countries where there is little access to animal proteins and nuts, which are the best sources of this mineral. According to Griffin, zinc deficiency, which can cause poor growth, reduced resistance to infections, and life-threatening bouts of diarrhea and pneumonia, is particularly devastating for children.

"Simply adding zinc to iron-fortified flour appeared to be an easy, inexpensive and attractive solution to this serious problem," Griffin said. "But because zinc has the potential to interfere with iron absorption, health officials were hesitant to do so."

Iron is regularly added to wheat flour in many countries, including the United States, to prevent iron deficiency anemia.

"With so little money available to solve nutritional problems, health officials in Indonesia wanted to be sure that adding zinc to flour would not negate the benefit of the added iron, and that the added zinc was actually absorbed," Griffin said.

To assess the feasibility of adding zinc to iron-fortified flour, Griffin worked with fellow CNRC researcher Dr. Steven Abrams and Dr. Susi Herman from the nutritional research and development center in Bogor, Indonesia. Griffin and Abrams are known internationally for their mineral nutrition studies using stable isotopes. Stable isotopes are rare, naturally occurring, non-radioactive "variations" of elements like iron, zinc, oxygen, hydrogen, and calcium that are used as "tracers" in studies of nutrient absorption and metabolism.

The team tested the effects of two forms of zinc, known as zinc sulfate and zinc oxide, which could feasibly be used to fortify flour. Their studies revealed that both forms of zinc were well absorbed, but adding zinc sulfate to iron-fortified flour did indeed interfere with iron absorption. However, adding zinc oxide did not.

In light of these results, the Indonesian government plans to begin fortifying flour sold in that country with zinc oxide in the near future.

"Fortifying common foods with critical nutrients can be a complicated and challenging endeavor," Griffin said. "But when done properly, it can make an immeasurable difference in the health of millions of children."❖

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Nutrition Tidbits

Q **My pre-teen daughter wants to take vitamins to be sure she's meeting nutritional guidelines. Are there any vitamins she should not take at her age?**

A While there is nothing wrong with pre-teens taking a daily multi-vitamin, it's important for your daughter to understand that taking a vitamin pill is not a substitute for a healthy diet, say CNRC nutrition experts.

The USDA offers a great interactive tool that can help your daughter assess and track, the quality of her diet. The Interactive Healthy Eating Index (IHEI) tool can be accessed through USDA's Center for Nutrition Policy and Promotion (http://www.usda.gov/cnpp/) or directly from http://147.208.9.133/

Your daughter might also want to check out nutrition courses that are routinely offered in many communities. Once she sees what foods provide, she will begin to feel comfortable that she can get all the nutrients she needs by simply making smart food choices.

Finally, if your daughter's main concern is not getting adequate nutrition while keeping her calories down, this article on Food Guide Pyramid portion sizes could also help: http://www.usda.gov/cnpp/Pubs/Brochures/HowMuchAreYouEating.pdf❖

Find hundreds of articles on topics ranging from breastfeeding to vegetarian teens, links to great food and nutrition web sites and back issues of *Nutrition & Your Child* on the CNRC website. Go to:
http://www.bcm.tmc.edu/cnrc/

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