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NebFact



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Nutrition for Tobacco Smokers & Chewers

by Judy A. Driskell, Extension Nutrition Specialist

Many Nebraskans smoke or chew tobacco. Thirty-one percent of the men and 21 percent of the women in Nebraska smoke or chew tobacco according to a recent survey. About 21 percent of the adults in Nebraska are cigarette smokers. Nationally, about 24 percent of adults smoke cigarettes. About 4 1/2 percent of the adults in Nebraska are tobacco chewers. Nationally, about 3 percent of adults chew tobacco. Tobacco use contributes to heart disease, cancer, chronic lung disease, stroke, and pneumonia.

Quitting tobacco smoking or chewing is the best recommendation. However, if you don't quit, there are some nutrition suggestions that may benefit smokers and chewers.

Nutrient Needs of Adults

The NebGuide G94-1194, Nutrition Guide for Men, is designed to help men meet their nutritional needs. A similar publication is available for women (G93-1193). The NebGuide G92-1113, Family Nutrition Guide, may be used in helping families as a whole meet their nutritional needs.

National surveys show that adults frequently eat foods that contain too little vitamin B-6 and vitamin E, too many calories, and too much total fat, saturated fat, cholesterol, and sodium. Also, women frequently eat too little folic acid, iron, calcium, and zinc.

The basic nutritional needs of men and women who smoke or chew tobacco are similar to those who don't use tobacco. Except, rather conclusive evidence exists that tobacco users need more antioxidant nutrients than nonusers. The antioxidant nutrients are b-carotene, vitamin C (also known as ascorbic acid), and vitamin E. b-carotene is a precursor of vitamin A.

Antioxidants in the Diets of Americans

Many individuals in our country, including tobacco users, have inadequate intakes of antioxidants. Only 9 percent of the adult U.S. population consume at least 5 servings daily of fruits and vegetables. About one out of four adults eat 3 or more servings daily of vegetables; dark green and deep yellow vegetables contain b-carotene. About one out of four adults eat fruits or vegetables rich in vitamin C daily. About

half of the women, 19 to 50 years, consume recommended intakes of vitamin E. Smokers are reported to consume lower quantities of antioxidant nutrients than nonsmokers and little is known about the dietary habits of tobacco chewers.

Antioxidants and Health

Antioxidant nutrients seem to have protective roles with regard to cancer, heart disease, cataract formation, cognitive (mind) dysfunction, and perhaps some other diseases. There seems to be a balance between antioxidant protectors and components that promote oxidation in the body. This balance appears to be related to health or disease. Some components of cigarette smoke promote oxidation. They provide high levels of oxidant stress. Free radicals, which also promote oxidation, are derived from tobacco. Cigarette smoke has been estimated to contain 1,000,000,000,000,000 free radicals per inhalation. These free radicals can oxidize the fat components of the body and this is not desirable.

b-carotene

Studies show that plasma levels of carotenes including b-carotene are reported to be lower in cigarette smokers than in nonsmokers. Epidemiological evidence indicates that a relationship exists between the incidence of cancer, heart attacks, and cataracts, and serum b-carotene levels. The protective factor seems to be b-carotene itself rather than another component of vegetables and fruits. Women who ate foods containing 15 to 20 mg daily of b-carotene in a study had lower risks of heart attacks and strokes than those who consumed less than 6 mg daily.

Vitamin C

Cigarette smokers have lower vitamin C intakes and plasma vitamin C levels than nonsmokers. The incidence of cancer, heart disease, and cataracts is lower in populations that have high intakes of fruits or leafy green vegetables. Data are inconclusive as to whether vitamin C or other components of these fruits and vegetables are the protective factor. Smokers who ate foods containing more than 200 mg vitamin C daily had serum vitamin C levels equivalent to those of nonsmokers who consumed 60 mg or more of the vitamin according to a recent national survey. The last edition of the Recommended Dietary Allowances recommended that regular cigarette smokers take in at least 100 mg of vitamin C daily. Smokers have been found to have higher levels of vitamin C in their lung tissues than nonsmokers. This may reflect a defense mechanism against the free radical species from cigarette smoke.

Vitamin E

Vitamin E is the body's most effective antioxidant. Smokers have been found to have lower levels of plasma vitamin E than nonsmokers. Data are inconsistent as to the effects of vitamin E on the incidence of chronic diseases.

Food Sources of Antioxidants

Foods rich in b-carotene, vitamin C, and vitamin E are given in Table I. Tobacco smokers and chewers are encouraged to eat around 9 servings of these foods daily.

It is possible to get too much of the antioxidant nutrients. The lowest toxic dose levels for adults reported in reliable literature are about 4 g for vitamin C and unknown for vitamin E. People who routinely ingest large amounts of b-carotene usually get yellowish skin. Excessive intakes of b-carotene do not result in the individuals having high vitamin A levels. b-carotene, vitamin E, and vitamin C

supplements may benefit those having inadequate amounts of these vitamins. Antioxidant supplements containing 10,000 IU b-carotene, 200 IU vitamin E, and 250 mg vitamin C are available and can be taken without concerns regarding toxicity.

Table I. Foods rich in b-Carotene, Vitamin C, and Vitamin E¹

Beta Carotene

Dark Leafy Green and Deep Yellowish-Orange Vegetables and Fruits:

Apricots	Carrots	Squash
Broccoli	Pumpkin	Sweet Potatoes
Cantaloupe	Spinach & Other Dark Leafy vegetables	

Vitamin C

Fruits (especially Citrus) and Vegetables:

Asparagus	Green Pepper	Spinach & Other Greens
Broccoli	Liver	Squash
Brussels Sprouts	Mango	Strawberries
Cabbage	Orange	Tomato
Cantaloupe	Orange Juice	Tomato Juice
Cauliflower	Papaya	Watermelon
Grapefruit	Potatoes	
Grapefruit Juice	Raspberries	

Vitamin E

Primarily Oils and Oil Products

- Oils - Canola, Corn, Cottonseed, Olive, Peanut, Safflower, Soybean, Sunflower:
- Avocado
- Mayonnaise and most Salad Dressings
- Peanuts and Chunky Peanut Butter
- Salmon
- Sweet Potato
- Sunflower Seeds

¹List, not exhaustive, contains foods rich in these nutrients. Rich is defined by the Food and Drug Administration as containing 20 percent or more of the Daily Value for that nutrient per serving.

Dietary Recommendations Specific for Users of Tobacco

- Eat at least 100 mg vitamin C daily.
- Eat about 9 servings of fruits and vegetables daily [or, as stated otherwise, eat a diet high in antioxidant nutrients.]

Summary

About 1/4 of Nebraska's adults smoke or chew tobacco. The best health recommendation for these people is to quit using tobacco products. However, if individuals keep using tobacco products, they may benefit from the consumption of additional b-carotene, vitamin C, and probably vitamin E in their diets.

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