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Fruit and Vegetable Consumption by Older Americans

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The 2005 *Dietary Guidelines for Americans* stress the importance of fruit and vegetable consumption as part of a healthy diet, along with whole grains and fat-free or low-fat milk products. Diets relatively high in fruits and vegetables are associated with lower risks of many chronic diseases. Older Americans (age 65 and over), one of the fastest growing segments of the population, are at higher risk than younger individuals for some chronic diseases. This *Nutrition Insight* examines the fruit and vegetable consumption of older people using recent food intake data. Older people's consumption is compared to that of adults age 19 to 64. Also, males and females are examined separately since previous research has indicated differences in consumption patterns by gender.

Data Source and Methods

The Federal Government's National Health and Nutrition Examination Survey (NHANES) provides information on Americans' consumption of foods and nutrients as well as extensive health-related data. NHANES 1999-2002 uses a complex, multistage probability sample of the civilian noninstitutionalized population of the United States. Individuals of all ages were sampled. The NHANES 1999-2002 sample includes expanded samples of some population subgroups such as Mexican Americans, African Americans, and adults 60 years and older.

For the 1999-2002 NHANES, individuals' 1-day dietary intakes were collected. Prior research has indicated that food intakes based on 1-day dietary recall are reliable measures of usual intakes of population groups. Data were collected through an in-person interview using the 24-hour dietary recall method. Information about dietary intake for individuals 12 years old and older was self-reported. Sample weights were used to make the sample representative of the U.S. population. The sample for this study consisted of 9,339 people age 19 and over with reliable dietary intake data (7,182 age 19 to 64 and 2,157 age 65 and over). Intake levels were compared to food group recommendations from MyPyramid, which translates the 2005 *Dietary Guidelines* and the 1997-2004 Dietary Reference Intakes into specific food intake patterns.

Fruit and Vegetable Consumption

Food group recommendations in MyPyramid vary by age and gender as well as by physical activity level. MyPyramid suggests that sedentary women age 51 and over consume 1.5 cups of fruit and 2 cups of vegetables per day (for a 1600-calorie diet) and that sedentary men age 51 and over consume 2 cups of fruit and 2.5 cups of vegetables per day (for a 2000-calorie diet). Younger adults and more physically active individuals have recommended intakes higher than these levels because of higher caloric needs.

During the 1999-2002 period, 84 percent of older males and 88 percent of older females reported consuming fruit (table 1), a nonsignificant difference. For those age 65 and over consuming some amount of fruit, the average amount consumed was 1.4 cups for males and 1.3 cups for females (a nonsignificant difference). Older Americans were significantly more likely to eat fruit on a given day than their younger counterparts. About 70 percent of people age 19 to 64 reported consuming fruit on a given day (females were significantly more likely than males to consume fruit). Intake levels for fruits were less than the amount recommended by the *Dietary Guidelines* for each age-gender group, even assuming the lowest level of physical activity (sedentary activity level).

People of all age-gender groups did somewhat better in terms of vegetable consumption. Most people (94 to 96 percent) reported eating a vegetable on a given day. There was no

Table 1. Percentage of people consuming fruit or vegetables on a given day, by age and gender (amount consumed in cups for those reporting some consumption in parentheses), 1999-2002

	Percent consuming	
	Fruit	Vegetables
19 to 64 years		
Male	66.9 (1.4)	94.3 (2.1)
Female	72.2 (1.2)	96.0 (1.7)
65+ years		
Male	84.4 (1.4)	94.5 (1.8)
Female	87.5 (1.3)	94.9 (1.5)

significant difference between younger and older age groups in regard to the percentage of people reporting vegetable consumption. For those age 65 and over consuming some amount of vegetables, the average amount consumed was 1.8 cups for males and 1.5 cups for females (a significant difference). As with fruit, intake levels for vegetables were less than the amount recommended by the *Dietary Guidelines* for sedentary individuals for all age-gender groups.

Types of Fruits and Vegetables Consumed

In addition to recommendations for total fruit and vegetable intake, the *Dietary Guidelines* also provide recommendations on the proportions of various types of fruits and vegetables to consume. For fruit intake, the Guidelines suggest that the majority of the total daily amount be as whole fruit (i.e., fresh, frozen, dried, and canned fruit that is whole or has been cut up) rather than juice, to ensure adequate fiber intake. Fruit intake by older adults complied with this advice, with 61 and 63 percent of the fruit consumption by older males and females as whole fruit rather than juice (table 2). In contrast, fruit intake by younger adults was less likely to be whole fruit, with 54 and 50 percent of the intake by younger males and females, respectively, as juice.

The *Dietary Guidelines* recommend that a variety of vegetables be selected each day, and in particular that vegetables from each of five subgroups (dark green, orange, legumes, starchy, and other) be selected several times a week. MyPyramid food intake patterns suggest that about 14 percent of all vegetable consumption be dark-green vegetables, about 10 percent be orange vegetables, and about 15 percent be dry beans and peas. For all age-gender groups, actual consumption of these three subgroups is much lower than recommendations.

For older adults who reported consuming vegetables, starchy and other vegetables accounted for about 80 percent of total vegetable consumption on a given day. Dark-green and orange vegetables together accounted for only 12 to 15 percent of total vegetables. Orange vegetables made up a significantly higher proportion of vegetable consumption for older people than for younger people and for females as opposed to males. Dry beans and peas accounted for 5 to 6 percent of total vegetables; there were no significant differences between age-gender groups in terms of dry beans and pea consumption.


Table 2. Types of fruit and vegetables consumed on a given day by people reporting some consumption, by age and gender, 1999-2002

	19 to 64 years		65+ years	
	Males	Females	Males	Females
	<i>Percent</i>			
Fruit				
Juice	54	50	39	37
Whole fruit	46	50	61	63
Vegetables				
Dark-green (broccoli, spinach, etc.)	5	7	7	9
Orange (carrots, sweet potatoes, etc.)	3	5	5	6
Legumes (dry beans and peas)	7	6	6	5
Starchy (potatoes, corn, etc.)	37	32	35	26
Other (tomatoes, onions, etc.)	48	50	47	55

Summary

A large percentage of Americans, 19 years and older, consume some fruit (72 percent) or vegetables (95 percent) on a given day based on NHANES 1999-2002. Older Americans were significantly more likely to eat fruit on a given day than their younger counterparts. Although older Americans consume a large proportion of their fruit in the form of whole fruit, in compliance with dietary recommendations, their fruit intake levels are less than the amount recommended even for sedentary individuals. Older Americans also have vegetable intake levels less than the recommended amount for sedentary individuals as well as an imbalance in the variety of vegetables consumed. Nutrition education efforts aimed at older people need to focus on increasing fruit and vegetable intakes while encouraging consumption of dark-green and orange vegetables, and legumes.

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