Fruits and Vegetables and Health

It is widely acknowledged that fruits and vegetables are important in a varied, healthy and balanced diet and this has been embedded within national dietary guidelines as a specific recommendation to eat more of these important food groups. Epidemiological studies have shown that a high intake of a wide variety of fruits and vegetables is associated with a lower risk of chronic diseases, particularly cardiovascular disease. In a meta-analysis of existing cohort studies, those consuming 3-5 servings/day and > 5 servings/day had an 11% and 26% reduction in risk of stroke, respectively, compared with those consuming < 3 servings per day.

The World Health Organization (WHO) has estimated that insufficient intake of fruits and vegetables causes around 14% of gastrointestinal cancer deaths, about 11% of ischaemic heart disease deaths and about 9% of stroke deaths worldwide.

Fruits and vegetables are an important source of essential vitamins and minerals and dietary fiber and help to increase the nutrient density of the diet. In addition, these plant foods provide other important components such as phytochemicals, which are also potentially beneficial to health. Emerging research suggests that bioactive compounds present in citrus fruits, for example, may potentially be associated with a reduced risk of stroke.

All Forms Matter

Buying a combination of fresh, canned, frozen, dried, and 100% juice maximizes nutrition, minimizes waste, saves money, and assures that there is always a variety of fruits and vegetables available. Exclusively recommending one form of fruit or vegetable over another ignores the benefits of each form and limits consumer choice.

Most fat-soluble nutrients, including carotenoids, vitamin A, and vitamin E, are higher in processed fruits and vegetables. This is true, in part, because the mild heat treatment in processed products allows for greater bioavailability of lipid-soluble nutrients. Processed fruits and vegetables may also contain greater nutritional value because some processing cultivars are more nutritious than fresh cultivars, as is the case with tomatoes.

The absorption of lutein found in corn, an antioxidant that may reduce the risks of cataracts and macular degeneration, is also enhanced by heat from the canning process.

From a nutrition and sensory standpoint, recipes prepared with canned and/or frozen ingredients have been rated as comparable to those prepared with cooked fresh ingredients.

Research shows that compared to non-juice drinkers, children who drink 100% juice have higher intakes of vitamins A and C, magnesium, folate, phosphorus, calcium, and potassium – all nutrients that have been identified as frequently under-consumed by these age groups.

Dried fruits are a particularly significant source of dietary potassium and fiber. Depending on the specific fruit, they provide other important nutrients like vitamin A and carotenoids (dried peaches and apricots), vitamin K (dried plums), calcium (dried figs), manganese (dried figs), and boron (raisins and dried plums).

Dried fruit is an excellent source of phenolic compounds which contribute to the antioxidant capacity of fruits and vegetables. In fact, the antioxidant capacity is much higher for dried fruit than corresponding values for fresh because the antioxidants are concentrated into a smaller volume during the dehydration process.

In terms of coronary heart disease a comprehensive review of the literature concluded that 100% fruits and vegetable juices had benefits similar to whole fruits and vegetables.

One study demonstrated increased amounts of some key anthocyanins in canned blueberries, a powerful antioxidant, compared to the amounts found in fresh and frozen blueberries.

Know the Facts

Americans are not consuming even half of their recommended servings of fruits and vegetables despite research outlining health benefits. Barriers to consumption include confusion surrounding pesticides, microbial contamination and food preservation methods, as well as cost. Health professionals, scientists, and the media have a responsibility to share information, based on sound science, to minimize confusion. Having answers to common misperceptions about fruits and vegetables may help overcome some barriers to their consumption.

Key Barriers to Greater Consumption

When primary shoppers were asked what factors made it most difficult for them to include more fruits and vegetables in meals and snacks, cost was among the highest concerns. In fact, 44% said fruit was too expensive and 35% said vegetables were too expensive. Fresh fruits and vegetables in particular were perceived as most costly, while frozen and canned were favored because they were less costly.

When asked why shoppers don’t purchase some forms of fruits and vegetables, concern about artificial ingredients or added preservatives prevailed, with a general perception that canned fruits and vegetables in particular weren’t as healthy as other forms.

In a separate study, almost 20% of low income consumers reported that negative messaging about pesticide residues and the use of biotechnology would cause them to either be unsure of what to eat or to reduce their consumption of fruits and vegetables.

Ultimately, consumers believe they can actually achieve their fruit and vegetable consumption goals when they know that they can ‘count’ all forms toward their daily goal.
Drink 100% Juice!

There are some general misconceptions about the appropriateness of 100% fruit juice as part of a diet, especially for children. The current scientific evidence strongly supports the nutritional benefits of 100% fruit juice and the weight of the evidence does not support a relationship between overweight and juice consumption. In fact, 100% fruit juice consumption has been associated with improved nutrient adequacy in children and adolescents. Drinking 100% juice can help children and adults reach daily fruit and vegetable consumption goals. Remember, there are no added sugars in 100% juice—just the natural sugars found in whole fruit.

Concerns About Canned Fruits and Vegetables are Unfounded

Shoppers who don’t purchase canned fruits and vegetables say it is because they are less healthy and have ‘added preservatives or artificial ingredients.’ In reality, added sugar or sodium are the primary added ingredients to these products and ‘no-sodium’ or ‘packed 100% juice’ versions are readily available.

Concern has also been expressed about the use of bisphenol-A (BPA) found in the lining of canned food containers, despite FDA stating that BPA is safe to use in food-contact materials. In response to consumer concerns, however, many can manufacturers have already discontinued their use of BPA.

The Nutrition Facts panel on canned vegetables must list the ascorbic acid (vitamin C) content of the vegetables (in milligrams per 100 grams). There is no use for the ascorbic acid content of canned fruits. The move to more ‘healthy’ labels on food and beverages is a significant milestone.

Fruits and vegetables do not contribute significantly to America’s sugar and sodium intake, regardless of the form in which they are consumed. In fact, all canned, frozen, and dried fruits contribute less than two percent of the added sugar in most Americans’ diets, and vegetables add less than one percent of the sodium.

Sources of Sodium in the Diets of the U.S. Population Ages 2 Years and Older28

<table>
<thead>
<tr>
<th>Category</th>
<th>Sodium mg (ages 19-50)</th>
<th>Sodium mg (ages 51+)</th>
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<tr>
<td>Egg &amp; Egg Dishes</td>
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<td>Rice &amp; Rice Dishes</td>
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<td>Fruits</td>
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Healthy Foods are Not More Expensive

When you compare the price of foods by weight or average portion size, vegetables and fruits are less expensive than most dairy, protein, and moderation foods. It’s only when you compare price per calorie that less healthy foods are cheaper than fruits and vegetables.

Getting the recommended amount of fruits and vegetables costs as little as $2-$2.50 per day. Average prices ranged from under 20 cents to over $2 per edible cup equivalent, depending on the specific fruit or veggie.