

Keywords: fruit and vegetable supplements

Problem: Busy lives and limited access to healthy foods make eating enough fruits and vegetables difficult. Many turn to supplements to fill the nutritional gap. However, clinicians are skeptical. Do these supplements measure up to their hype? Is there any clinical research to back their efficacy?

Solution: Encapsulated fruits and vegetables have proven benefits. This article accomplishes the following:

1. Presents clinical research results
2. Discusses the proven benefits of these supplements

## Are Fruit and Vegetable Supplements Legitimate or a Scam?

*"Finish your vegetables, and you can have dessert." We hear her voice in our heads. Mom understood that a diet rich in fruits and vegetables was good for her kids. However, busy lives and limited access to nutritious foods make eating healthy difficult. More than 50% of Americans turn to supplements to fill nutritional gaps.*

*Most supplements have little to no clinical research to back their efficacy. Consequently, many clinicians are skeptical about recommending them to patients. However, encapsulated fruits and vegetables have research-proven benefits. Keep reading to learn about some benefits of taking a fruit and vegetable supplement.*

### Key Takeaways

- The World Health Organization (WHO) recommends consuming over four cups of fruits and vegetables daily to prevent chronic disease. However, the average American does not eat the recommended amount.
- Fruit and vegetable concentrates (FVCs) are dried fruit and vegetables encapsulated for convenience. These supplements include all the plant's nutritious parts, including the peels and seeds.
- FVCs reduce oxidative stress, improve gut health, and enhance cardiovascular wellness.
- Fruit and vegetable supplements are rich in polyphenols and carotenoids. The superpower of these plant compounds is their ability to fight inflammation.
- Patients taking FVCs have better glucose clearance, a more diverse gut microbiome, and enhanced heart health.

## The nutritional shift

Over the past 20 years, the world has experienced a significant nutritional shift. The WHO recommends a minimum daily intake of 400 grams of fruits and vegetables to prevent chronic disease. This daily amount equals approximately **two and a half cups of vegetables and two cups of fruit**. Most Americans consume significantly less than the recommended amount.

The typical Western diet is high in saturated fats and sugars. These refined foods are low in phytochemicals, vitamins and fiber. The epidemic of obesity, diabetes and other noncommunicable diseases (NCDs) is in part due to this nutritional shift. According to the National Institute of Health (NIH), the four big NCDs include:

- Cardiovascular diseases (CVD)
- Diabetes
- Cancers
- Chronic respiratory conditions

The WHO claims that NCDs are responsible for more than 68% of global deaths. The first defense against NCDs is to shift back to a healthy diet. Disease prevention begins by consuming more fruits and vegetables and less processed foods.

Que the eye roll. Who has time to prepare and eat large amounts of fruits and vegetables? Several companies now offer a solution to this problem.

## Fruit and vegetable supplements

Fruit and vegetable supplements are dried fruits and vegetables encapsulated for convenient consumption. These concentrates contain not only the juicy part of the fruit but also the seeds and peel. The discarded parts often have the highest nutritional values. For example, orange seeds are an excellent source of fat, fiber, protein and vitamin C. However, people toss the seeds. **FVCs include these nutrient-dense components, increasing the bioavailability of vitamins, minerals and phytonutrients.**

Farmers selling to grocery stores typically harvest crops prematurely to extend shelf life. This practice decreases the produce's nutritional value. FVC companies committed to freshness grow their crops near the processing plants. This practice allows them to harvest and process within six hours, ensuring optimum nutritional quality. Encapsulated fruits and vegetables seem too good to be true, and many clinicians question their efficacy. So, what does research show?

## What the clinical research shows

According to the Centers for Disease Control and Prevention (CDC), more than half of Americans use dietary supplements. But do these supplements improve health? Or do they

merely make people feel better about their poor diet? Fruit and vegetable supplements have proven benefits. Here are some reported advantages of taking FVCs.

## Reduced oxidative stress

According to the NIH, oxidative stress causes the onset and progression of many health conditions associated with cardiovascular, neurological, metabolic and oncological disorders. Elevated reactive oxygen species (ROS) and nitrogen species damage proteins, DNA and lipids. In turn, patients experience increased susceptibility to chronic degenerative disorders.

**Carotenoids reduce oxidative stress.** These brightly colored compounds protect the plant, disperse extra light energy, decrease the reactivity of dangerous species, and shield cells from superoxide radicals. When humans consume carotenoids, they profit from these molecules' superpowers. These plant-based compounds offer the following health benefits:

- Antioxidant
- Anti-tumor
- Anti-aging
- Anti-diabetic
- Anti-inflammatory

Research suggests that FVCs are rich in polyphenols and carotenoids. People who eat a diet rich in fruits and vegetables or take a supplement of FVCs reduce oxidative stress.

## Improved gut health

The phytochemicals in plants shape the intestinal flora. A diverse gut microbiome benefits human physiology in the following ways:

- Enhanced metabolism
- Better maintenance of the mucosal barrier
- Improved immunomodulation
- Increased protection against pathogens

A placebo-controlled, double-blind, randomized clinical trial studied the impact of daily FVCs and a fiber-rich shake on the gut microbiome of overweight, middle-aged female healthcare workers. The study reveals **improved glucose clearance and better intestinal gut microbial diversity**. FVCs promote gut health and reduce the risk of insulin resistance.

## Enhanced cardiovascular wellness

Cardiovascular disease impacts a growing number of Americans annually. Not only are more people affected by it, but the average age is also getting lower and lower. Is there a way to reduce this trend?

A systematic review following PRISMA guidelines and utilizing relevant studies shows exciting results. This review focused on the following risk factors associated with NCDs:

- Total cholesterol
- Low-density lipoprotein
- Plasmatic homocysteine
- Systolic blood pressure
- Body mass index (BMI)

These **parameters significantly improved when taking encapsulated fruits and vegetables**. Supplementation of FVC for people with hypertension reduces CVD, especially coronary heart disease.

## Supporting health and preventing disease

We have known it since childhood. Eating fruits and vegetables is important. Research continues to validate mom's encouragement. Fruits and vegetables are vital for the prevention of NCDs. However, most people eat less than the recommended amount. Evidence-based lifestyle changes can improve the health of individuals, families and communities.

We are passionate about prevention because it is the key to healthier communities. Our staff is eager to help your patients live long, happy lives. That is why we would be honored to be your partner in care. Click the "Refer" button to start today.

## Resources

"Nutrient Composition and Physical Properties of Two Orange Seed Varieties." NIH: National Library of Medicine, 2021, Nutrient Composition and Physical Properties of Two Orange Seed Varieties - PMC.

"Anti-Inflammatory and Antioxidant Capacity of a Fruit and Vegetable-Based Nutraceutical Measured by Urinary Oxylipin Concentration in a Healthy Population: A Randomized, Double-Blind, Placebo-Controlled Clinical Trial." NIH: National Library of Medicine, 2022, Anti-Inflammatory and Antioxidant Capacity of a Fruit and Vegetable-Based Nutraceutical Measured by Urinary Oxylipin Concentration in a Healthy Population: A Randomized, Double-Blind, Placebo-Controlled Clinical Trial - PMC.

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"An encapsulated fruit, vegetable and berry juice powder concentrate increases plasma values of specific carotenoids and vitamins." Vitamin and Nutrition Research, 2019, An encapsulated fruit, vegetable and berry juice powder concentrate increases plasma values of specific carotenoids and vitamins.