

Immunity Boosters In Ayurveda & Daily Foods

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Abstract

There are a lot of immunity boosters in the diet which protects us from the invasion of different diseases. Ayurvedic diets and foods contain a lot of antioxidants that enhance immunity. The best immunity booster having antioxidant properties is Chyawanprash in Ayurveda, which acts as a Rasayana and can be taken for the whole of the year without any side effects for a long time. With heating, its properties do not get destroyed. Our ancient sages gave us treasures of antioxidants to remain healthy, and by staying healthy, one can worship God to achieve Moksha, which is the ultimate mission of human life.

Vitamin C is a very good immunity booster having the ability to detoxify the body. Surprisingly, it purifies living and non-living things equally. In the manufacturing of Ayurvedic mineral and metallic medicines, Vitamin C is the key component for Nirmalakarana. Strong toxins become bioavailable after purification.

¹The biochemical estimation of cow urine has shown that it contains sodium, nitrogen, sulfur, Vitamin A, B, C, D, E, minerals, manganese, iron, silicon, chlorine, magnesium, citric, succinic, calcium salts, phosphate, lactose, carbolic acid, enzymes, creatinine, and hormones. Any deficiency or excess of these substances inside the body causes disorders. Cow urine contains all of these substances with having a balanced proximate composition. Therefore, cow urine consumption restores the balance of these substances and helps in curing incurable diseases.

Keywords: Ayurveda, Antioxidant, Chyawanprash, Cow urine, Rasayana, Vitamin C.

Introduction²

Vitamin C, also known as L-ascorbic acid, is a water-soluble vitamin that is naturally present in some foods and available as a dietary supplement. Unlike most animals, humans cannot synthesize vitamin C endogenously, so it is an essential dietary component.

Vitamin C is required for the biosynthesis of collagen, L-carnitine, and certain neurotransmitters; vitamin C is also involved in protein metabolism. Collagen is an essential component of connective tissue, which plays a vital role in wound healing.

Vitamin C is also an important physiological antioxidant and has regenerated other antioxidants within the body, including alpha-tocopherol (vitamin E). Ongoing research examines whether vitamin C, by limiting the damaging effects of free radicals through its antioxidant activity, might help prevent or delay the development of certain cancers, cardiovascular disease, and other diseases in which oxidative stress plays a causal role. In addition to its biosynthetic and antioxidant functions, vitamin C plays an important role in immune function and improves nonheme iron absorption, the form of iron present in plant-based foods. Insufficient vitamin C intake causes scurvy, characterized by fatigue or lassitude, widespread connective tissue weakness, and capillary fragility.

The intestinal absorption of vitamin C is regulated by at least one specific dose-dependent, active transporter. Cells accumulate vitamin C via a second specific transport protein. In vitro studies have found that oxidized vitamin C, or dehydroascorbic acid, enters cells via some facilitated glucose transporters and is then reduced internally to ascorbic acid. The physiologic importance of dehydroascorbic acid uptake and its contribution to the overall vitamin C economy is unknown.

Oral vitamin C produces tissue and plasma concentrations that the body tightly controls. Approximately 70%–90% of vitamin C is absorbed in moderate intakes of 30–180 mg/day. However, at doses above 1 g/day, absorption fell to less than 50% and absorbed, unmetabolized ascorbic acid is excreted in the urine. Results from pharmacokinetic studies indicate that oral doses of 1.25 g/day ascorbic acid produce mean peak plasma vitamin C concentrations of 135 micromol/L, which are about two times higher than those produced by consuming 200–300 mg/day ascorbic acid from vitamin C-rich foods. Pharmacokinetic modeling predicts that even doses as high as 3 g ascorbic acid taken every 4 hours would produce peak plasma concentrations of only 220 micromol/L.

The total body content of vitamin C ranges from 300 mg (at near scurvy) to about 2 g. High levels of vitamin C (millimolar concentrations) are maintained in cells and tissues and are highest in leukocytes

(white blood cells), eyes, adrenal glands, pituitary glands, and brains. Relatively low levels of vitamin C (micromolar concentrations) are found in extracellular fluids, such as plasma, red blood cells, and saliva.

Vitamin C Rich Foods³

The following 20 foods are among the richest sources of vitamin C:

	Food	Serving size	Milligrams (mg) per serving	Percent of 90 mg daily value (DV)
1	Guava, raw	1 cup raw	377	419%
2	Sweet red pepper, raw	1 cup raw	190	211%
3	Tomato juice	1 cup canned	170	188.9%
4	Orange juice	1 cup	124	137.8%
5	Sweet green pepper	1 cup raw	120	133%
6	Hot green chili pepper, raw	1 pepper, raw	109	121%
7	Oranges	1 large fruit	97.5	108.8%
8	Strawberries	1 cup sliced	97.6	108%
9	Papaya	1 small fruit	95.6	106.2%
10	Pink grapefruit juice	1 cup	93.9	104.3%
11	Broccoli	1 cup raw	81.2	90.2%
12	Pineapple chunks	1 cup raw	78.9	87.7%
13	Potato	1 large vegetable	72.7	80.8%
14	Brussels sprouts	1 cup raw	74.8	79.8%
15	Kiwifruit	1 fruit	64	71.1%
16	Mango	1 cup raw	60.1	66.7%
17	Cantaloupe	1 cup	57.3	63.7%
18	Cauliflower	1 cup raw	51.6	57.3%
19	Lemon	1 fruit	44.5	49.4%
20	White grapefruit	½ medium fruit	39	43.3%

Another⁴

Sr no.	FRUIT NAME	VITAMIN C (%age)	VITAMIN C (mg)
1	Apple	7	4.6
2	Avocado	16	10
3	Banana	14	8.7
4	Red chilies	239	143.7
5	Eggplant	3	2.2
6	Grapes	4	6
7	kiwi	154	92.7
8	lemon	88	53
9	lime	48	29.1
10	lychee	119	71.5
11	Passion fruit	50	30
12	peach	11	6.6
13	Persimmons	110	66
14	pineapple	79	47.8
15	pomegranate	17	10.2
16	pomelo	101	61
17	pumpkin	15	9
18	strawberry	97	58.8
19	watermelon	13	8.1
20	zucchini	29	17.9

Recommended Dietary Allowance For Vitamin C⁵

Age	Male	Female	Pregnanc y	Lactation
0–6 months	40 mg*	40 mg*		
7–12 months	50 mg*	50 mg*		
1–3 years	15 mg	15 mg		
4–8 years	25 mg	25 mg		
9–13 years	45 mg	45 mg		
14–18 years	75 mg	65 mg	80 mg	115 mg
19+ years	90 mg	75 mg	85 mg	120 mg

Smokers Individuals who smoke require 35 mg/day more vitamin C than nonsmokers.

* Adequate Intake (AI)

Sources of Vitamin C⁶

Food

Fruits and vegetables are the best sources of vitamin C (see Table below). Citrus fruits, tomatoes, and tomato juice, and potatoes are major contributors of vitamin C to the American diet. Other good food sources include red and green peppers, kiwifruit, broccoli, strawberries, Brussels sprouts, and cantaloupe. Although vitamin C is not naturally present in grains, it is added to some fortified breakfast cereals. The vitamin C content of food may

be reduced by prolonged storage and by cooking because ascorbic acid is water-soluble and is destroyed by heat. Steaming or microwaving may lessen cooking losses. Fortunately, many of the best food sources of vitamin C, such as fruits and vegetables, are usually consumed raw. Consuming five varied servings of fruits and vegetables a day can provide more than 200 mg of vitamin C.

Selected Food Sources of Vitamin C

Food	Milligrams (mg) per serving	Percent (%) DV*
Red pepper, sweet, raw, ½ cup	95	106
Orange juice, ¾ cup	93	103
Orange, 1 medium	70	78
Grapefruit juice, ¾ cup	70	78
Kiwifruit, 1 medium	64	71
Green pepper, sweet, raw, ½ cup	60	67
Broccoli, cooked, ½ cup	51	57
Strawberries, fresh, sliced, ½ cup	49	54
Brussels sprouts, cooked, ½ cup	48	53
Grapefruit, ½ medium	39	43
Broccoli, raw, ½ cup	39	43
Tomato juice, ¾ cup	33	37
Cantaloupe, ½ cup	29	32
Cabbage, cooked, ½ cup	28	31
Cauliflower, raw, ½ cup	26	29
Potato, baked, 1 medium	17	19
Tomato, raw, 1 medium	17	19
Spinach, cooked, ½ cup	9	10
Green peas, frozen, cooked, ½ cup	8	9

*DV- Daily Value.

Dietary supplements⁷

Supplements typically contain vitamin C in ascorbic acid, which has equivalent bioavailability to that of naturally occurring ascorbic acid in foods, such as orange juice and broccoli. Other forms of vitamin C supplements include Sodium ascorbate; Calcium ascorbate; other mineral Ascorbates; Ascorbic acid with bioflavonoids; and combination products, such as Ester-C, which contains Calcium ascorbate, Dehydroascorbate, Calcium threonate, Xylonate, and Lyxonate.

Vitamin C Deficiency⁸

Acute vitamin C deficiency leads to scurvy. The timeline for scurvy development varies depending on vitamin C body stores, but signs can appear within 1 month of little or no vitamin C intake (below 10 mg/day). Initial symptoms can include fatigue, malaise, and inflammation of the gums. As vitamin C deficiency progresses, collagen synthesis becomes impaired, and connective tissues become weakened, causing petechiae, ecchymoses, purpura, joint pain, poor wound healing, hyperkeratosis, and corkscrew hairs. Additional signs of scurvy include depression and swollen, bleeding gums and loosening or loss of teeth due to tissue and capillary fragility. Iron deficiency anemia can also occur due to increased bleeding and decreased nonheme iron absorption secondary to low vitamin C intake. In children, bone disease can be present. Left untreated, scurvy is fatal.

Until the end of the 18th century, many sailors who ventured on long ocean voyages, with little or no vitamin C intake, contracted or died from scurvy. During the mid-1700s, Sir James Lind, a British Navy surgeon, conducted experiments and determined that eating citrus fruits or juices could cure scurvy. However, scientists did not prove that ascorbic acid was the active component until 1932.

Today, vitamin C deficiency and scurvy are rare in developed countries. Overt deficiency symptoms occur only if vitamin C intake falls below approximately 10 mg/day for many weeks. Vitamin C deficiency is uncommon in developed countries but can still occur in people with limited food variety.

Vitamin C Containing Plants⁹

Plant source	Amount (mg / 100g)
Kakadu plum	3100
Camu Camu	2800
Rosehip	2000
Acerola	1600
Seabuckthorn	695
Jujube	500
Indian gooseberry	445
Baobab	400

Blackcurrant	200
Red pepper	190
Parsley	130
Guava	100
Kiwifruit	90
Broccoli	90
Loganberry	80
Redcurrant	80
Brussels sprouts	80
Wolfberry (Goji)	73
Lychee	70
Cloudberry	60
Elderberry	60
Persimmon	60

Cherry	7
Peach	7
Apple	6
Asparagus	6
Beetroot	5
Chokecherry	5
Pear	4
Lettuce	4
Cucumber	3
Eggplant	2
Raisin	2
Fig	2
Bilberry	1
Horned melon	0.5
Medlar	0.3

Plant source	Amount (mg / 100g)
Papaya	60
Strawberry	60
Orange	50
Lemon	40
Melon, cantaloupe	40
Cauliflower	40
Garlic	31
Grapefruit	30
Raspberry	30
Tangerine	30
Mandarin orange	30
Passion fruit	30
Spinach	30
Cabbage raw green	30
Lime	30
Mango	28
Blackberry	21
Potato	20
Melon, honeydew	20
Cranberry	13
Tomato	10
Blueberry	10
Pineapple	10
Pawpaw	10

Animal Source	Amount (mg / 100g)
Lamb liver (fried)	12
Calf adrenals (raw)	11
Lamb heart (roast)	11
Lamb tongue (stewed)	6
Human milk (fresh)	4
Goat milk (fresh)	2
Cow milk (fresh)	2

Another ¹⁰

Ginger – Aadrak

Ginger, known as Aadrak or Shunti in Sanskrit, is also known as Vishwa-Aushadh in Ayurveda, the Rasayana that is a cure to many disorders the best immunity booster in Ayurveda.

Amla

The ancient scriptures describe this fruit as an Ayurvedic medicine for a strong immune system with life enhancing properties when consumed in specific concoctions. The Indian Gooseberry is a superfood as it is one of the richest sources of Vitamin C found naturally among fruits.

Holy Basil, Tulsi

The herb has a strong spiritual significance in Indian culture and is known as a miraculous Ayurvedic immunity booster. Therefore, it also gets its name "the Holy Basil." It has to purify properties that help in fighting respiratory diseases, fever, and any kind of infection by building one's natural immunity.

Plant source	Amount (mg / 100g)
Grape	10
Apricot	10
Plum	10
Watermelon	10
Banana	9
Carrot	9
Avocado	8
Crabapple	8
Persimmon - fresh	7

Some other immunities boosting herbs in Ayurveda to look out for are –

- Guduchi (*Tinospora cordifolia*)
- Amlaki (*Embllica Officinalis*)
- Yasthimadhu (Licorice)
- Shatavari (*Asparagus racemosus*)
- Ashwagandha (*Withania Somnifera*)

Interest of Conflict

None.

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