



Assessment Of Vitamin C (L - Ascorbic Acid) In Selected Fruits & Vegetables In Osmanabad City Maharashtra India

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Abstract:

In the current review L-ascorbic acid (Ascorbic Acid) content in selected fruits like apple, kiwi, guava, lemon banana, and sputa, orange & selected vegetable like cabbage, cauliflower, potato, green pepper, parsley, tomato, & beans was determined by volumetric titration method. The fruits & vegetable sample were collected from market of Osmanabad city. It was found that L - ascorbic acid noteworthy in orange and lowest in banana while in vegetables, it was highest in cauliflower and lowest in beans. These perceptions might fill in as direction on determination of products of the soil that can be consumed to meet the day by day prerequisites of L-ascorbic acid for great wellbeing.

Keywords: L-ascorbic acid, Fruits Vegetables, Volumetric titration

Introduction:

L-ascorbic acid otherwise called ascorbic corrosive is a water solvent supplement found in certain food varieties. It has an atomic equation of $C_6H_8O_6$ sub-atomic weight 176.13 g/mol, and melting point is $190C^0$. In the body it goes about as a cancer prevention agent assisting with shielding cells from the harm brought about by free revolutionaries. Free revolutionaries are intensifies shaped when our bodies convert the food we eat into energy Individuals are likewise presented to liberate revolutionaries in the climate from tobacco smoke, air contamination, and bright light from the sun. [1] The body likewise needs L-ascorbic acid to make collagen, a protein expected to assist wounds with mending. Likewise, L-ascorbic acid works on the ingestion of iron from plant based food varieties and assists the safe framework with working appropriately to safeguard the body from illness. [1, 2] **Sources of Vitamin C:**

Food: Fruits and vegetables are the best wellsprings of L-ascorbic acid. Citrus organic products, tomatoes and tomato juice, and potatoes are significant benefactors of L-ascorbic acid to the American eating routine [3] Other great food sources incorporate red and green peppers, kiwifruit, broccoli, strawberries, Brussels fledglings, and melon [3, 4] Although L-

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ascorbic acid isn't normally present in grains it is added to some sustained breakfast oats.

The L-ascorbic acid substance of food might be decreased by delayed capacity and by cooking in light of the fact that ascorbic corrosive is water dissolvable and is annihilated by heat [3, 5]. Steaming or microwaving may decrease cooking misfortunes. Luckily, a considerable lot of the best food wellsprings of L-ascorbic acid, like products of the soil, are typically devoured crude. Consuming five shifted servings of foods grown from the ground a day can give in excess of 200 mg of L-ascorbic acid.

How much L-ascorbic acid do we really want? How much L-ascorbic acid you really want every day relies upon your age. Normal day by day suggested sums for various ages suggested by National Institute of Health (NIH) are recorded beneath in milligrams (mg).Table: 1 (Daily Requirement of Vitamin C Per day For Human Body)

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Life Style	Recommended Amount of Vitamin C Daily
Birth to six month	40 mg
Infant 7 to 12 months	50mg
Children 1 to 3 years	15mg
Children 4 to 8 years	25mg
Children 9 to 13 years	45mg
Teen 14 to 18 years (Boys)	75mg
Teen 14 to 18 years (Girls)	65mg
Adults (Men)	90mg
Pregnant Teen	80mg
Adults (Women)	75mg
Pregnant Women	85mg
Breast fasting Women	120mg

Vitamin C and Health:

Because of its capacity as a cell reinforcement and its part in invulnerable capacity, L-ascorbic acid has been elevated as a way to help forestall and treat various ailments. This area centers around four illnesses and issues in which L-ascorbic acid could assume a part malignant growth (counting counteraction and treatment) cardiovascular infection age-related macular degeneration (AMD) and cataracts, and the common cold.

Objectives of the Study:

The target of this study is to decide the L-ascorbic acid substance in a few regularly consumed leafy foods in the Osmanabad city.

The obtained results were compared with recommendation given by- (NIH) for daily requirement of vitamin C for human body.

Hypothesis:

The utilization of products of the soil are advantageous and the wellbeing impacts of organic products are attributed, to a limited extent to ascorbic corrosive, a characteristic cell reinforcement which might restrain the advancement of major clinical circumstances including cardiovascular infections and malignant growth [6-8].

Present study was to relate the substance of ascorbic corrosive a few neighborhood products of the soil vegetables.

Materials and methods:

Tests of new products of the soil were bought from a neighborhood market of Osmanabad city.. All of the models were completely cleaned with refined water to eliminate sticking toxins. All reagents used were of shrewd grade Sample arranging: 100 gm of every model was cut into little pieces, blended alongside 50 mL of refined water using an electric blender, and afterward separated. The filtrate was moved into a 500 ml volumetric jar and the flagon was topped off to the imprint with refined water. Readiness of the arrangements: A 0.005 M iodine plan was prepared as follows-2 g of KI and 1.3 gm of Iodine were definitively checked, and a while later deteriorated in refined water. The iodine arrangement was moved to a 1000 ml volumetric jar and the volume was finished sufficient. At long last, the iodine arrangement was normalized with an answer of ascorbic corrosive. To set up a 0.5% starch pointer plan, 0.25 gm of starch was solubilized in a 100 ml estimating glass and 50 ml of refined water was added. The arrangement was warmed with blending at 80C⁰ for 6 min.

The resultant arrangement was permitted to cool to room temperature. [9] Titration of the concentrate: 20 ml of the example arrangement was pipette into a 250 mL conelike jar. 150

mL of refined water was added into the flask followed by 1 mL of starch indicator solution. The sample was then titrated with the 0.005M iodine solution until a dark blue-black color was persisted due to the starch iodine complex.

Titration was repeated until three titres are gotten that concur inside 0.1ml. [10]

Results & discussion:

The aftereffect of assessment of L-ascorbic acid in different foods grown from the ground is show in table 2.

Table 2: Vitamin C content of some fruits and vegetables

Sr. No.	Name Of Fruits	Vitamin C (mg/100g in fruit)	Name Of Vegetable	Vitamin C (mg/100g vegetable)
	Apple	25.99	Cabbage	33.88
	Kiwi	71.55	Cauliflower	38.46
	Guava	108.60	Potato	27.53
	Lemon	52.69	Tomato	25.26
	Banana	17.68	Parsley	30.77
	Sputa	33.36	Green pepper	37.12
	Orange	111.57	Beans	15.92

Results showed that all products of the soil examined in this work contain L-ascorbic acid, yet in various focuses. Orange natural product has most extreme substance of L-ascorbic acid which is 111.57 mg/100g demonstrating that it is great wellspring of L-ascorbic acid. Its substance could cover 100 percent of the suggested day by day admission (RDI) of L-ascorbic acid which is 65 mg/d for solid and non smoking grown-ups. [11] While banana was found to have most reduced content of L-ascorbic acid. In vegetables Cauliflower has maximum content of vitamin C which is 38.46 mg/100g which is within the desirable limit of recommended daily intake of vegetable. While beans have lowest content of vitamin C in vegetable in present study.

Conclusion:

In the current review the volumetric titration technique was applied for L-ascorbic acid assurance on different kinds of products of the soil commonly consumed in Osmanabad city Maharashtra India. Results showed that an extensive variety in L-ascorbic acid in these foods grown from the ground was noticed. Orange and Cauliflower were viewed as the most extravagant leafy foods in L-ascorbic acid, individually.

These discoveries might fill in as a decent aide on determination of a specific natural product/vegetable for the everyday prerequisite of L-ascorbic acid.

Suggestions/ Recommendation:

Notwithstanding titration strategy other methods can be used for further study of estimation of vitamin C (Ascorbic acid). This titration strategy is basic advantageous and less tedious.

Further examinations ought to be led to research the L-ascorbic acid substance of more products of the soil which are developed /consumed in our country.

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