

**JIGNASA - STUDENT STUDY PROJECT 2022 -23**  
**COMMISSIONERATE OF COLLEGIATE EDUCATION**  
**HYDERABAD, TELANGANA**

**GOVERNEMENT DEGREE COLLEGE NARSAPUR**  
**MEDAK DISTRICT**

**CHEMISTRY PROJECT**  
**ON**

**“VITAMIN-C CONTENT IN DIFFERENT FRUIT JUICES AND  
THE ROLE OF VITAMIN-C IN THE PREVENTION OF  
COVID-19 PANDEMIC”**



**Project Prepared by**

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## SYNOPSIS

**Name of the College:** GDC Narsapur, Medak District, Telangana.

**Subject:** Chemistry

**Title:** Vitamin C content in different fruit juices and the role of vitamin C in the prevention of the COVID-19 pandemic

**Statement of the problem:** Which fruit juice has the highest content of vitamin C? and the role of vitamin C in the prevention of the COVID-19 pandemic

**Aims & Objectives:** Vitamins are essential for human beings, without vitamins, there is no normal life. Vitamin C boosts immunity in humans. It helps to fight against the COVID-19 viruses to some extent. We created awareness about vitamin C, its importance among students and villagers.

**Introduction:** Vitamin C is a water-soluble vitamin found in citrus fruits and vegetables. Molecular formula is  $C_6H_8O_6$ . In the human body, it cannot be synthesized. It should be taken through the diet. Vitamin C works as an antioxidant to protect cells. Deficiency of vitamin C leads to scurvy.

**Materials:** 3 different types of fruit juices (Orange, Lemon and Pineapple), DCPIP solution and Ascorbic acid solution

**Apparatus:** Syringe needles, beakers, specimen tube, knife and juicer etc,

**Procedure:** Take 1ml of DCPIP Solution in specimen tube. Fill the 5ml syringe needle with 0.1% Ascorbic acid solution. Insert the syringe needle into the specimen tube & drip ascorbic acid drop by drop into the DCPIP solution while stirring slowly until the blue colour of the DCPIP solution is decolourised. It shows that vitamin C. Record the volume of the 0.1% ascorbic acid solution needed to decolourise the blue colour of the DCPIP solution. Repeat steps twice to get the average volume for each different juice. Record the volume of each juice & calculate the concentration of vitamin C. The higher the vitamin C content in the fruit juice, the smaller the volume needed to decolourise the 1ml of DCPIP solution.

## **ROLE OF VITAMIN C IN THE PREVENTION OF COVID-19 PANDEMIC**

The COVID-19 virus was originally discovered in Wuhan, China. It was initially reported to the WHO on December 31, 2019 and is now spreading across the globe at an alarming rate. Globally, as on 23<sup>rd</sup> December 2022, confirmed cases are 65,19,18,402 and deaths 66,56,601. In India, confirmed cases are 4,46,76,678 and deaths 5,30,690.

Vitamin C has been used as an anti-oxidant in various diseases, including viral illnesses like Corona virus disease. For the prevention and treatment of viral respiratory tract infection, it is recommended to take 75 - 90 mg of Vitamin C per day. It showed an 85% reduction in cold and flu symptoms.

**Conclusion and Suggestions:** Orange juice has the highest content of vitamin C compared to lemon and pineapple juices. The old proverb "Health is Wealth" tells us to live a healthy and happy life. As the basic laws of good health are directly related to the food we eat, the amount of physical exercise we do, and our cleanliness, so fresh, homemade food, seasonal fruits, and a healthy lifestyle are necessary for happy living.

**EAT HEALTHY    STAY ACTIVE    LIVE HAPPILY**