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SURVEY AND AWARENESS OF VITAMIN C IN PHARMACY STUDENT

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ABSTRACT

Vitamin-C known as Ascorbic acid is a water-soluble vitamin play important role in normal functioning of immune system. Because your body cannot make vitamin C, therefore we must obtain Vitamin C through our diet. Vitamin C is essential for development and maintenance of connective tissue. Disease result from severe vitamin C deficiency scurvy, anemia, joint pain, bleeding gums etc. It plays important role in bone formation, wound healing and maintenance of healthy gums. Significance and beneficial effect of vitamin C in respect to human disease such as cancer, atherosclerosis, diabetes, neurodegenerative diseases. The aim of survey was to evaluate and compare awareness of vitamin C carried among pharmacy student. A cross sectional survey was carried among 166 pharmacy student using questionnaire. This survey was conducted on an online form through google form. Questionnaire contained 10 questions on awareness of vitamin C among pharmacy student. The data were extracted and analyses. Response of participants was collected. From the study it is clear that 85% of them are aware of source of vitamin C and only 55% student aware of health benefits of vitamin C and 70% of them aware that vitamin C boost.

Keywords: Vitamin C, Scurvy, Immunity, Survey Response.

INTRODUCTION

Vitamins are essential nutrient that are required for various biochemical and physiological process in the body. Most of vitamin cannot synthesize in the body and must be obtained from diet. Vitamins are classified on the basis of their solubility as water soluble (vit. C and B) and fat-soluble vitamins (A, D, E, K). Vitamin C was first isolated in 1923 by Hungarian biochemist and Nobel laureate Szent-Gyorgyi and synthesized by Howarth and Hirst. In 1970, Pauling stated that "Ascorbic acid is or Vitamin C is essential for human beings.

Vitamin C is water soluble vitamin that your body needs to grow and develop normally. Vitamin C has important role in maintenance of healthy immune system. Due to its antioxidant properties, it is a very popular dietary supplement. It is important role in connective tissue, bone and skin. Collagen is an essential component of connective tissue, which plays important role in wound healing. Deficiency of this vitamin cause anaemia, infections, bleeding gums, Scurvy, poor wound healing, joint and muscle pain. The role of vitamin C in inflammation and the immune system.

Vitamin C plays an important role in many physiological process in humans. Antioxidant property of vitamin C helps in repairing tissue and reducing damage due to inflammation, oxidation and regenerate other antioxidant. Synthesis of neurotransmitter, norepinephrine, dopamine, serotonin for brain function. Vitamin C is used for treatment of common cold, cardiovascular disease, cancer and cataract. Vitamin C has major role in synthesis of protein, wound healing by the formation of collagen, connective tissue. It also helps in repair and maintains bone, cartilage, teeth and absorption of iron.

According to National Institute of Health (NIH) adult male should consume 90 milligrams of Vitamin C per day and female should consume 75 mg per day. Smokers have lower level of vitamin C than non-smokers, because vitamin C is absorbed more quickly in those who smoke. Smoking causes inflammation and to mucous membrane of throat, mouth and lung. People who smoke need 35 mg more vitamin C than non-smokers.

The aim of this study is to create awareness of Vitamin C rich food and its role in the body among pharmacy students. For healthy living, knowledge and awareness of vitamin C requirements is essential.

SOURCE OF VITAMIN C

Vitamin C is a water-soluble vitamin which is found in many foods, especially fresh fruits and vegetables are the best source of vitamin C. The richest sources of vitamin C include citrus fruits like orange and lemons, tomatoes, potatoes, papaya, green and red peppers, kiwi fruits, strawberries, guava and green leafy vegetables such as broccoli, cauliflower and capsicum are natural sources of vitamin C. The animal sources are poor in vitamin C content therefore plant sources become important because of high content of vitamin C. 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, so consumption of raw fruits is preferred.



Fig.1: sources of vitamin c

VITAMIN C DEFICIENCY

Deficiency of vitamin C in the body happens because of a lack of sufficient amount of vitamin C in the diet. Vitamin C deficiency can cause scurvy, cardiovascular disease. The common symptoms of scurvy include bleeding gums, anemia, tiredness, swollen joints, and bruising. Other symptoms due to vitamin C deficiency include dry skin, nose bleeding, and tooth loss, poor healing of wounds, rashes or red spots on skin, loss of appetite, muscle weakness, swollen gums, and weak bones.

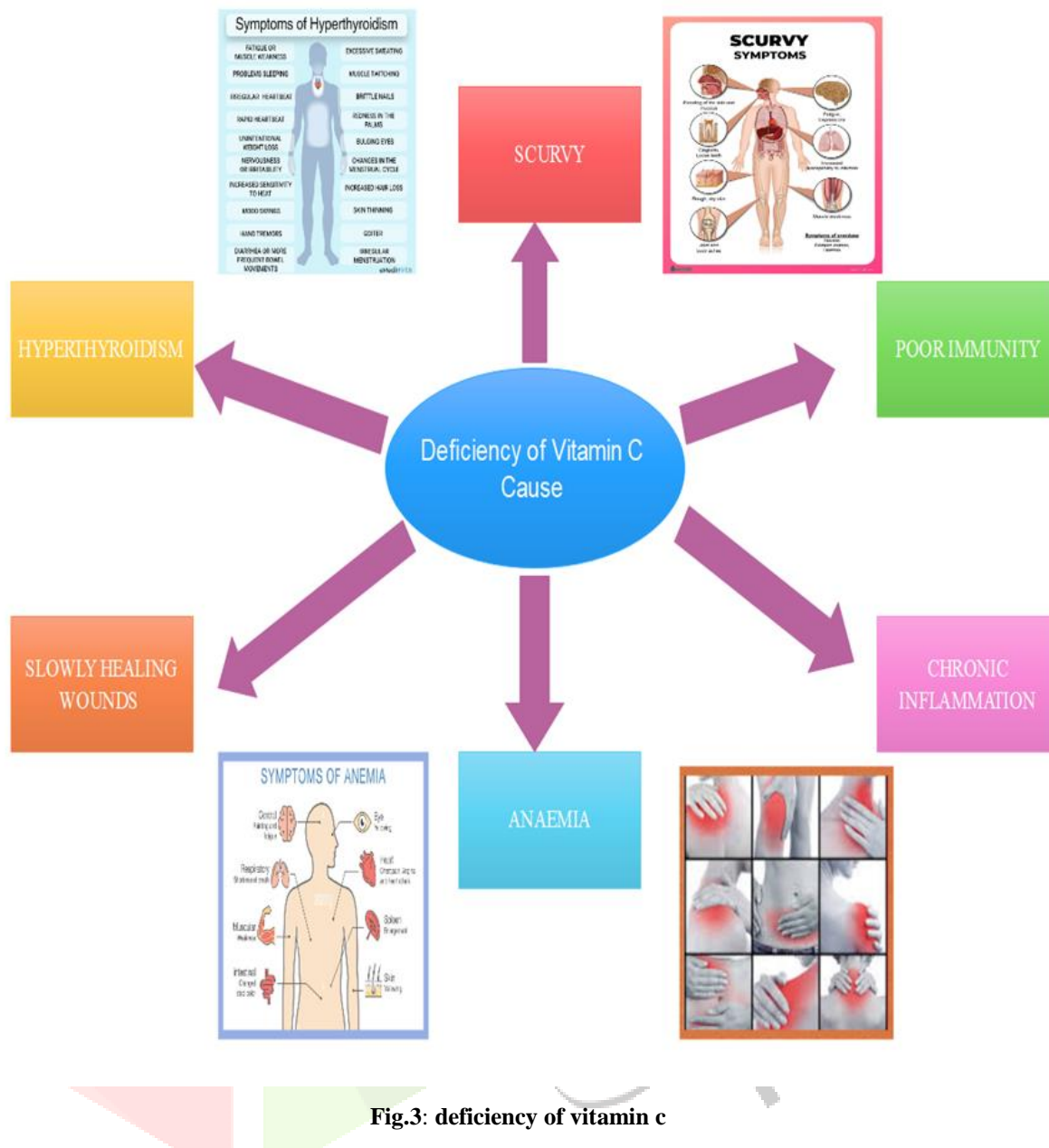


Fig.3: deficiency of vitamin c

MATERIALS AND METHODS

The study about survey and awareness of vitamin c was conduct in an online programmed with a sample size of 166 participants from the course of D-Pharm, B-Pharm, and M-Pharm in Pharmacy profession. The study of survey setting having advantages like easy to data collection and economical. A questionnaire contains details of participants and 10 questions based on the common information about vitamin c and circulate to 166 participants through online platforms called as survey planet using convenience sampling methodology. The figure details and responses of participants were collected. The data was abstracted as percentage and represented by the pia chart figures showing percentage response of each participant. The results were finally explained in detail

RESULT OF SURVEY

Participants from D-Pharma, B-Pharma and M-Pharma courses in pharmacy. (Figure 4). Most participants belong to the B-Pharma course (78.3%), then to the D-Pharm course (15.1%) and to the M-Pharm course (6.6%). (Figure 5). 89.8% of the total participants knew which vitamins are most important for the immune system. (Figure 6). 44.6% of the participants knew which fruits contained the amount of vitamin C. (Figure 7) 56.6% of the total number of participants knew that vitamin C is a water-soluble vitamin. (Figure 8). 34.3% of the participants knew that vitamin C is also called ascorbic acid. (Figure 9). 42.2% of the participants knew the daily vitamin C requirement per day. (Figure 10). 27.7% of the total participants knew that vitamin C is essential for the production and maintenance of collagen. (Figure 11) 63.9% of participants were aware of the symptoms associated with certain vitamin C deficiencies. (Figure 12). 19.3% of the total participants know which foods contain the most vitamin C. (Figure 13). 63.9% of the total participants knew that vitamin C deficiency causes scurvy. (Figure 14). 20.5% of the total participants knew they were at risk of developing scurvy or vitamin C deficiency.

Previous research suggests that vitamin C deficiency may be associated with an increased risk of scurvy with adequate nutritional supplementation. The study is limited by several factors, such as a small sample size and limited numbers. A multi-center study on the awareness of pharmacy students about foods rich in vitamin C can be conducted; a longer study time will give a better result.

Course of Student

166 responses

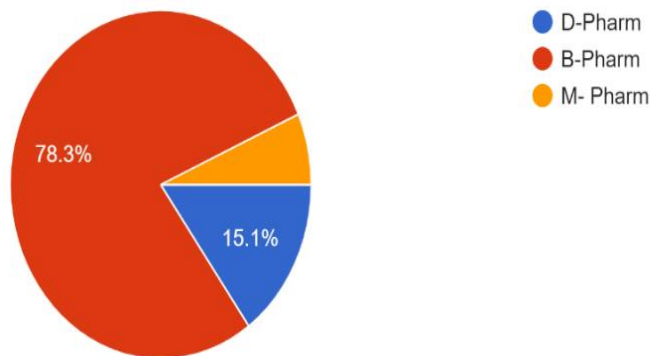


Fig.4 response represent course of participant

1. Which Vitamin is most important for immune System?

166 responses

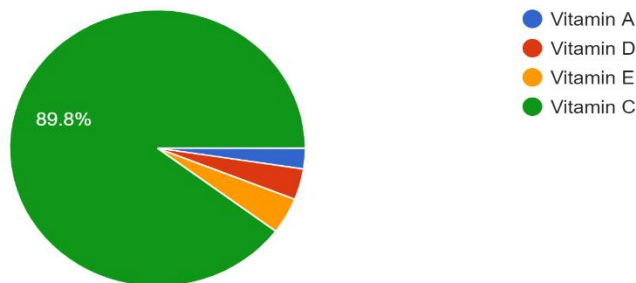


Fig.5 response of most important vitamin for immune system

2. Vitamin C is present in.....

166 responses

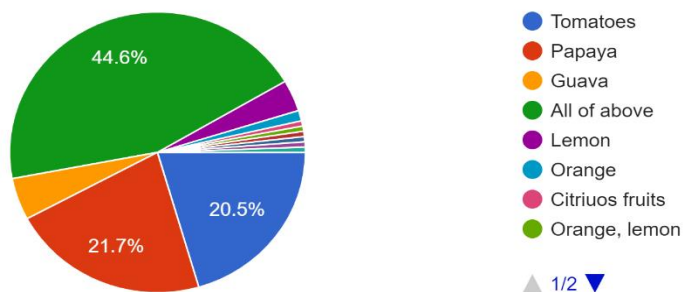


Fig.6 response of vitamin c rich fruits source

3.Which statement is TRUE about vitamin C?

166 responses

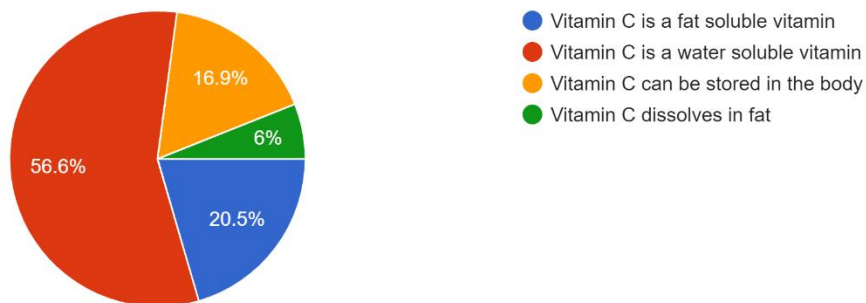


Fig.7 response of statement that vitamin c is a water soluble vitamin

4.The vitamin C is also known as.....

166 responses

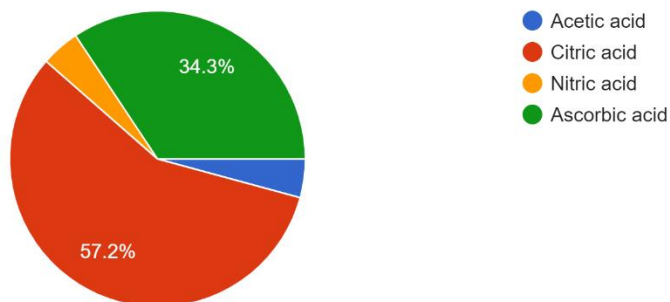


Fig.8 response of vitamin c is also known as ascorbic acid

5.Amount of vitamin C required per day ?

166 responses

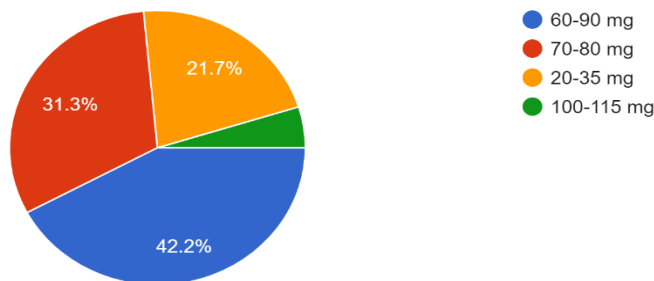


Fig.9 response of amount of vitamin c required per day

6. Vitamin c required for the production and maintenance of.....
166 responses

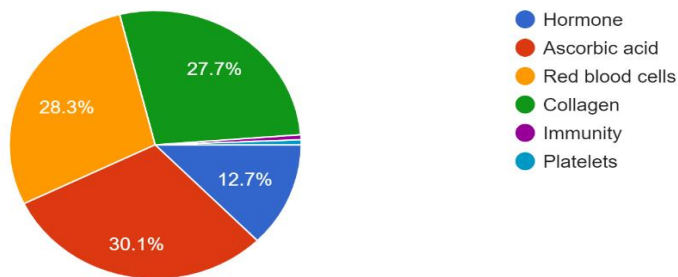


Fig.10 response of vitamin c is essential for the production and maintenance of collagen

7. Some deficiency symptoms of vitamin C are.....
166 responses

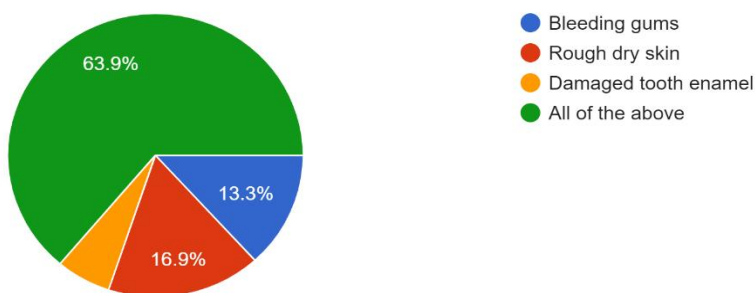


Fig.11 response of deficiency symptoms of vitamin c

8. Which of the following food source has highest level of vitamin C?
166 responses

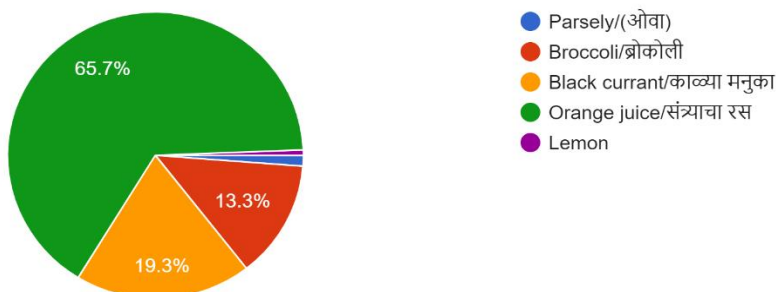


Fig.12 response of natural food source having highest level of vitamin c

9. Which of the following disease caused by deficiency of vitamin C?
166 responses

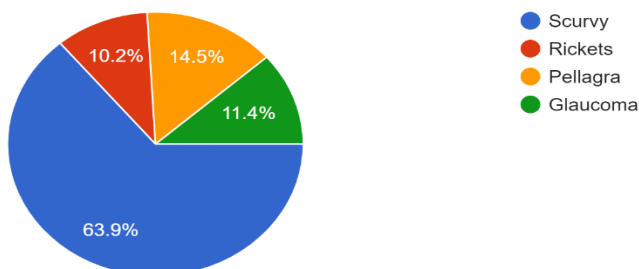


Fig.13 response of which disease caused by deficiency of vitamin c

10. Who is susceptible to develop scurvy (vitamin c deficiency)?

166 responses

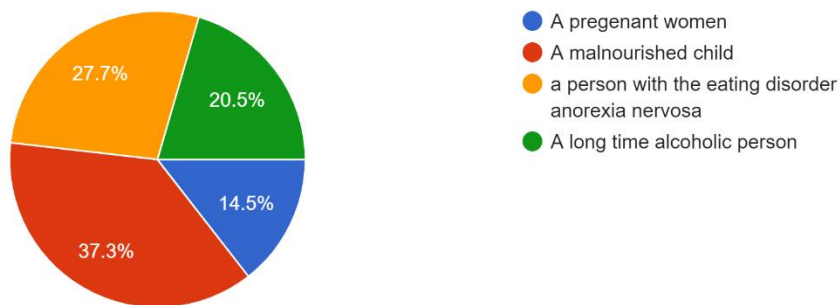


Fig.14 the response of having high risk of scurvy disease

CONCLUSION

The study found that pharmacy students' knowledge of vitamin C was not very good. The knowledge, awareness, need and benefits of vitamin C are essential to our profession and essential to a healthy lifestyle. As a pharmacist, they must have general knowledge and information about all vitamin C. Additional research increases knowledge about the relationship between vitamin C and various deficiency-related diseases. Health education programs are also important to ensure pharmacy students are aware of beneficial nutrients in vitamin C deficiency situations while providing practical advice and information for making balanced nutritional choices. These are simple measures that benefit the community.

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