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SURVEY ON AWARENESS AND UTILIZTION ABOUT MULTIVITAMIN (NEUTRACEUTICAL SUPPLEMENT) AND ITS HEALTH BENEFITS BEFORE AND AFTER COVID-19

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1.Abstract :

The COVID-19 pandemic has created an information overload of publicly available health data, both accurate and inaccurate. The ready availability of vitamins and supplements has led many to use them to fight the virus. It was to analyze clinical trials of dietary supplements. Multivitamins are great for your health.: An information overload of publicly available health data (both accurate and inaccurate) has occurred amid the COVID-19 pandemic. The ready availability of vitamins and supplements has led many to use them to fight the virus. It was to analyze clinical trials of dietary supplements.

2.Keywords:

Multiviultivitamins, covid-19 pandamic, supplement, vitamins, immunity.

3.Introduction:

Multi-vitamins are a combination of many different vitamins that are normally found in foods and other natural sources. Multivitamin supplements are also commonly prescribed by physician as a concomitant medication for mild to severe chronic illness. The corona virus disease (COVID-19) pandemic highlights the importance of the use of essential nutrients especially multivitamins used against COVID-19 infection or virus infection.[1]

In the past few decades, the use of dietary supplements including multivitamins has increased substantially. Increasing health awareness, education and easy availability of multivitamin supplements as over the counter agents are important for their widespread use.

Figure No. 1 Multivitamin Tablets

A multivitamin is a formulation intended to serve as a dietary supplement containing vitamins, dietary minerals, and other nutritional ingredients.Such formulations may be tablets, capsules, lozenges, powders, liquids, or injections. Available in pharmaceutical form. Unlike injectable formulations, which are obtained and administered only under medical supervision,
in healthy people, most scientific evidence indicates that multivitamin supplements do not prevent cancer, heart disease, or other illnesses. However, certain groups of people may benefit from multivitamin supplements, such as those who have poor diets or who are at high risk for macular degeneration. There is no standard scientific definition of A multivitamin is a dietary supplement that contains three or more vitamins and minerals, does not contain herbs, hormones, or drugs, and in which each vitamin and mineral is present in a dose less than the maximum acceptable intake set by the Food and Drug Commission. is defined as There is also no risk of adverse health effects.

1.1 Discovery of Vitamins :

In 1912, Casimir Funk discovered that foods contained compounds that prevented diseases such as beriberi, scurvy and pellagra. According to him, all compounds contain nitrogen, so he named this compound a "vitamin" because of its important function and fundamental properties. (Vita means life + amine as it is an amino group). However, it was later discovered that all of these compounds were nitrogen-free, so the term "essential amine" was changed to "vitamin."

1.2Significance and guidance:

Some people take multivitamins for convenience and to fill in potential nutrient gaps Believed to improve general health. Individuals who would benefit from taking an adequate multivitamin include those who:
-diet or consume fewer calories (dieters)
-some elderly people
-people who have undergone bariatric surgery

Following guidelines help to use multivitamin:

1.Appropriate daily values of ingredients

Choose a multivitamin that contains 100% of the daily value of most ingredients. Some nutrients, such as calcium, are too much to swallow and cannot be said to be 100% in a multivitamin. Magnesium and potassium levels are kept

low to avoid drug-nutrient interactions. However, exceeding 100% of the daily value for any particular nutrient is not helpful. Some nutrients, such as vitamins A, D, E, and K, can accumulate in the body and become toxic.

2.The right balance for age and sex

Nutritional needs very by gender and age. For example, premenopausal women need more iron, and older people need more calcium, vitamin D, and B6. It helps determine the amount of nutrients need for particular age and gender

3. Essential micronutrients

Our bodies require micronutrients to maintain our systems. In addition to well-known nutrients such as vitamin C, calcium, iron, magnesium and potassium, a good multivitamin contains:
Thiamine,Niacin, Riboflavin
Folic acid, B12.B6
Calcium, Magnesium, Selenium, Zinc Beta Carotene), E and K
Vitamin D2 or D3
You can skip multivitamins with added micronutrients that don't have daily recommendations like boron, nickel, and tin.

4. The nutrients need

Dietary guidelines emphasize the promotion of health and disease prevention for all age groups, with particular attention to vulnerable populations such as infants, children, adolescents, pregnant and lactating women, and the elderly. Other relevant factors that need to be considered are physical activity, health care, safe water supply, and socioeconomic development, all of which have a significant impact on diet and health. , provides 100% of the daily value of vitamin D, but with limited amounts of calcium and potassium and no fiber. Therefore, even if you are taking a multivitamin, it is important to consume foods rich in the following nutrients:

Calcium: low-fat milk, cheese, yogurt, almonds

Vitamin D: Fortified milk (bovine or plant-based)), grain yogurt

Potassium: legumes, legumes, potatoes, fruit, fish

Dietary fiber: legumes, nuts, oats, whole grains, fruits, vegetables Magnesium: nuts, spinach, dried beans, whole grains, oats wheat.

1.2 Types of Vitamins

A)Fat Soluble Vitamin

B)Water Soluble Vitamin

1)B-Complex -a)Hematopoietic

b(Energy releasing

2)Non B-Complex

Table No. 1 Fat Soluble Vitamins

S. N.	Name of Vitamins	Uses of Vitamins	Deficiency of Vitamin	Affected Organs
1	Vitamins A (Retinol)	Health vision Keeps healthy skin Promote growth Night blindness	Xerophthalmia Nyctalopia Keratomalacia	Eyes
2	Vitamin D (Calciferol)	Needed for strong teeth and bone	Rickets Osteomalacia Osteoporosis	Teeth Bones
3	Vitamin E (Tocopherol)	Keeps skin and RBC healthy Antioxident	Mascular weekness Creatinuria Fragile RBC 's Neurological dysfunction	Skin Brain Blood
4	Vitamin K (Phylloquinone)	Preventing osteoporosis Prevent internal bleedingReduce menstrual pain	Blood clotting Reduce body density Haemophilia	Blood Bones

Table No 2 Hematopoietic

S. N.	Name of Vitamins	Uses of Vitamins	Deficiency of Vitamins	Affected Organs
1	Vitamin B9 (Folic Acid)	Reduce Alzheimer's Growth of cells & tissues	Megaloblasic anaemia	Spinal cord Brain Blood Spine
2	Vitamin B12 (Cynocobalamine)	Formation of RBC's Maintainance of CNS Vital role in folate metabolism	Pernicious anaemia	Blood Brain

Table No. 3 Energy Releasing

S. N.	Name of Vitamin	Uses of Vitamin	Deficiency of Vitamin	Affected Organs
1	Vitamin B1 (Thiamine)	Heart function Anti-aging Liver cirrhosis	Beri-Beri Wernicke-Korsakoff Syndrome	Brain Heart Lungs
2	Vitamin B2 (Riboflavin)	Treatment of migraine Protect against cancer Promote healthy hair & skin	Cheilosis Glossitis Dermatitis	Brain Heart

3	Vitamin B3 (Niacin)	Boosts brain function Reduce B. P. Treat type I diabetes	Pellagra	Skin
4	Vitamin 4 (Adenine)	For protein synthesis	Fatigue, Anaemia Confusion	Blood Brain
5	Vitamin 5 (Pentothenic Acid)	Relieve from asthma, autism Helps to reduce stress	Burning feet syndrome Paresthesia	Lungs Kidney
6	Vitamin B6 (Pyridoxine)	Increase energy Synthesis of histamines Improve mood Prevent kidney stones	Neurological disorder Microcytic anaemia Dermatitis Glossitis	Brain Blood Kidney Skin
7	Vitamin B7 (Biotin)	Use in diabetes Growth of muscles Functioning of heart	Alopecia Dermatitis Enteritis	Skin Small Intestine

Table No.4 Non B-Complex

S. N.	Name of vitamin	Uses of Vitamin	Deficiency of Vitamin	Affected organs
1	Vitamin C (Ascorbic Acid)	Collagen formation Iron & heamoglobin metabolism Boosts immunity Cures cataract	Scurvy	Blood Skin

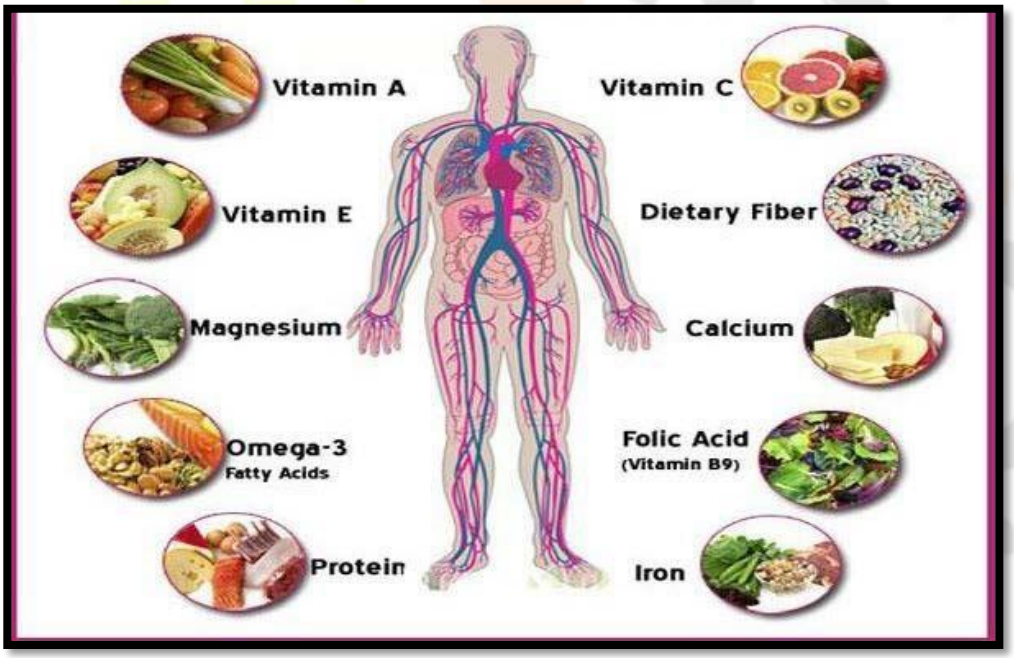
1.3 Composition and Sources of Multivitamins

Multivitamin supplements contain a combination of vitamins and minerals and sometimes other ingredients also. Each of the vitamins and minerals in multivitamin have a unique role in the body.

Table No.5 Composition and Sources of Multivitamins

Sr. No.	Name of Vitamins	Amounts	Sources
1.	Vitamin A	400 mg	Carrots
2.	Thiamine	0.7 mg	Potatoes, eggs
3.	Riboflavin	0.8 mg	Bananas
4.	Vitamin B6	0.8 mg	Meat, vegetables,
5.	Vitamin B12	1 µg	Meat , animal product
6.	Folic acid	75 µg	Green leaves , grains

7.	Niacin	9 mg	Tree nuts, Mushroom
8.	Pantothenic acid	3 mg	Avocados, broccoli
9.	Vitamin C	40 mg	Citric fruits, liver
10.	Vitamin D	10 µg	Fish, eggs, mushrooms
11.	Vitamin E	5 mg	Nuts, seeds
12.	Iron	8 mg	Spinach, eggs
13.	Zinc	5 mg	Dark chocolate
14.	Copper	0.4 mg	Cereal grains, nuts
15.	Iodine	70 µg	Garlic, salt
16.	Manganese	1 mg	Rice bran
17.	Chromium	20 µg	Broccoli, Potato
18.	Selenium	25 µg	Oats bran,Chicken
19.	Molybdenum	50 µg	Soybeans, tomatoes
20.	Calcium	100 mg	Milk,eggs, vegetables
21.	Magnesium	21.5mg	Almond, peanuts



1.4 Consumer Group of Multivitamins (Dietary Supplement)

1. Multivitamins for mens

Men's multivitamins usually contain a good balance of B vitamins, iron and magnesium for normal energy production. They also tend to be high in vitamin D3, calcium, vitamin K, and magnesium to help maintain healthy bones and teeth.

2. Multivitamins for Women

Women have increased needs for certain vitamins and minerals at different times in their lives. need more vitamin B6 to help Multivitamin for Young Women:-A woman between the ages of 19 and her 50s needs 14.8 mg of iron per day to compensate for the monthly loss of iron in the blood during menstruation. For this reason, most multivitamins aimed at young women provide higher levels of iron. and a multivitamin to maintain optimal health after birth. Pregnancy multivitamins often provide safe and adequate amounts of vitamin D3, iodine, vitamin B3, and vitamin B12.

3. Multivitamin for the over 50's

Multivitamins designed for people over the age of 50 usually contain more

Vitamin D3. This is especially true when the skin's ability to synthesize vitamin D3 declines with age.

Calcium & Magnesium - Supports bone health and protects against age-related diseases such as osteoporosis.

Vitamin K2 - Contributes to the maintenance of normal bones.

Vitamins A, B2, Zinc - Helps maintain normal vision. His

carotenoids such as lutein - small amounts are often recommended for eye health

4. Multivitamins for Active individuals

Specialist multivitamins are also widely used for those with busy and active lifestyles. These formulas will often contain increased levels of B vitamins and magnesium for the reduction of tiredness and fatigue, along with a good amount of vitamin D3 and calcium for the maintenance of normal bone health.

5. Multivitamins for Kids

A good multivitamin for children contains all of the essential vitamins and trace minerals, especially those needed for normal development and growth, including vitamin A, the B vitamins, calcium, and iron.

1.5 Medicinal and health benefits of Multivitamins :

-Helps to maintain the muscle strength: the main demons behind muscle-aging related problems are free radicals. These damaging free radicals can be kept in check with the daily consumption of multivitamins.

-Reduces stress and anxiety: it is said that giving the body its daily requirements of vitamins and minerals significantly reduces stress and anxiety levels. This happens because the body uses Vitamin B it gets to convert food into energy and keeps the nervous system functioning properly. This in turn keeps the stress hormones at bay thus resulting in overall reduced stress and anxiety for an individual.

-Improves short-term memory: there are enough studies that suggest that meeting the daily requirement of vitamins and minerals keeps the brain functioning properly overall which in turn supports the short-term memory function.

-Increases energy levels: when the body is deprived of certain minerals and vitamins then it has to work extra hard to perform simple tasks, resulting in lethargy and other healthrelated problems. Having the required dosage daily and maintain a healthy lifestyle will improve the overall functioning of the body resulting in increased levels of energy.

-Improves overall mood: as mentioned above, getting the daily requirements of vitamins and minerals keeps the brain functioning properly which even extends to the brain function which is responsible for our mood. This is why people often notice positive effects on their mood and emotional well being when they start living a healthier life.

-Support skin health: Vitamin C is an antioxidant that fights free radical damage and helps the body make collagen, which heals wounds and keeps your skin smooth and healthy. A multivitamin with 250mg will meet requirements for most people.

-Promote Bone and Muscle Function: Vitamin D helps your muscles function properly and allows your body to absorb calcium from food to keep your bones healthy. Check with your doctor if you don't spend much time outdoors in the sunlight, have dark skin, or are overweight, as you may need to take additional supplements.

-Immune System Support: Vitamin E and vitamin D support your immune system and protect your cells from damage that can lead to diseases.

-Helps in Detoxification: Multivitamins thatinclude Vitamin B2, AD, and EC helps in supporting the liver to break down the toxins that detoxify your system. Vitamin EC offers antioxidant protection, while Vitamin AD supports the body during the detoxification process.

-Reduce risk of cancer and heart diseases: Multivitamins can reduce the risk of cancer and heart diseases. However, other studies have found that it does not have any effect on such conditions. So, the results are still not precise, but we can say that Vitamins B1, B2, B6, and magnesium present in multivitamins play an essential role in keeping our hearts healthy.

1.6 Special Role of Multivitamin in Covid-19 :

In light of recent times, the Covid- 19 pandemic has negatively affected our lifestyle. Not only are there higher chances of infection but the recovery from COVID may sustain detrimental side effects like breathing problems, weaker joints, fatigue and shortness of breath. Hence, doctors and researchers have collectively agreed on the varied benefits of zinc, vitamin C and vitamin D nutritional supplements.

These nutrition and dietary are not meant to replace healthy foods instead they act as an additional shield against the COVID infection in a healthy and balanced diet with descent amount of carbohydrates, protein and fat is recommended along with in taking nutritional supplement in various cases, there has been a shortage of food supplies or necessary dietary needs . Thus increasing the need for vitamins and dietary supplements.

Vitamin D has previously been useful in creating immunity against epidemics like flu and chronic illness. It raises blood levels and is favorable for children and older adults. The nutritional supplementshas also been proven beneficial for meeting RDA (Recommended Dietary Allowance) and creating a safety net against diseases.

Vitamin D: supplements have a mild protective effect against respiratory tract infections.

Most people are deficient in Vitamin-D, so it's best to consult with a doctor about taking a Vitamin D supplement to boost immune response.

Zinc: is a vital component to WBC (white blood corpuscles) which fights infections. **Vitamin C:** prevents after effects from the COVID infection like inflammation, tissue damage and cardiac conditions.

Severe COVID-19 often involves progressive respiratory failure and may also result in life threatening pneumonia, multi-organ failure and death. Most of the COVID-19 report symptoms of "long COVID" include fatigue, muscle weakness, sleep difficulties and cognitive dysfunction for several months after the acute stage of illness has passed.

Currently, data are insufficient to support recommendations for or against the use of any vitamin, mineral, herb or other botanical, fatty acid or other dietary supplement ingredient to prevent or treat COVID-19 and by law, dietary supplements are not allowed to be marketed as a treatment, prevention, or cure for any disease. But, sales of dietary supplements marketed for immune health increased after the emergence of COVID-19 because many people hoped that these products might provide some protection from SARSCoV-2 infection and for those who develop COVID-19, help reduce disease severity. Pharmacologic treatments are also available, but no cure for COVID-19 exists. Thus, interest in dietary supplement ingredients that might enhance immune function and reduce inflammation to help prevent COVID-19 or manage its signs and symptoms remains high. Many of these ingredients has not been studied in people with COVID-19, but research suggests that they might improve immune function and help prevent or reduce symptoms of the common cold, influenza, and other respiratory tract infections.

Figure No. 3 Immune booster Vitamin

4. AIM AND OBJECTIVE

The pandemic situation due to COVID-19 has paralyzed the lives of the whole world population and has affected almost every individual in one way or the other. Researchers have been stimulated due to the increasing number of strains and symptoms. Several approaches have been used to control the spread of this highly infectious disease like early detection of the infected individual, development of a suitable, drug and containment of the spread of virus.

Although, several vaccines have been developed, they have shown to have their own limitations and side-effects. One of the measures which has been adopted by the global health agencies is to educate infected and uninfected people regarding the maintenance of strong immune system to prevent the infection and lessen the health complications.

Vitamin D has protective effect against respiratory tract infections, boosting immunity. Vitamin C prevents after effects from the COVID infection like inflammation, tissue damage and cardiac conditions. Zincis a vital component to white blood corpuscles which fights infections.

So to known the views of people about use of vitamin supplement in the form of multivitamins before and after the COVID-19, with following aim and objective.

Aim

Survey on awareness and utilization about multivitamin (nutraceutical supplement) and its health benefit before and after COVID- 19.

Objective

assess knowledge and awareness about multivitamins.

To identify the reasons behind the consumption of vitamin.

To identify the area that required more information about multivitamins.

5.CONCLUSION：

Observed responses indicate that most students are aware of the utility of multivitamins post-Covid-19, as multivitamins are doctor-recommended during the Covid-19 pandemic. Respondents questioned the public about the exact reasons for consuming multivitamins as a post-Covid-19 dietary supplement, as the demand for multivitamins has increased since Covid-19 and multivitamins alone are not for health. I pointed out that we need to educate people about health, but health also helps us make changes in our daily lifestyle.

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