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## The effect of vitamin B deficiency on human health

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### Abstract

This study aims to the importance of vitamin B for human health, and to educate people about the importance of vitamin B, and that if a deficiency will lead to severe complications for the person, leading to his illness, an electronic questionnaire was distributed through WhatsApp social networking application, where it was distributed to about 1000 people in the city of Mecca honor, and 800 responses were obtained.

**Keywords:** Vitamin B, deficiency, effect

### 1. Introduction

A series of water-soluble vitamins that move a significant part in cell metabolism and red blood cell forming. Although these vitamins portion like names (B1, B2, B3, etc.), they are chemically discrete complexes that are often set in the same foods. In general, complements containing all eight are referred to as the B-component. Person B vitamin complements are set by the number or special name of each vitamin, such as B1 for thiamine, B2 for riboflavin, and B3 for niacin. Some are more familiar and recognized by name than by number, for example, pantothenic acid, biotin, and folic acid. Each riboflavin is either a cofactor (usually a coenzyme) for prim metabolic operation or is a portent complex demand to make one and is therefore the main nutrient <sup>[4, 5]</sup>. Vitamin B deficiency is not popular, but it is not unusual either. The most significant harm of vitamin B deficiency is if it occurs. The effect of vitamin B deficiency is, Vitamin B is a term that contains a group of sundry vitamins, and each vitamin from this group includes many advantages in keeping the health of the body, Vitamin B deficiency side effects, following are the damages of vitamin B deficiency, separate according to each type of these vitamins: 1. Vitamin B12 deficiency; It is possible to do a test to size the standard of vitamin B12 in the human body, whose imbibition average reduces with age or to take off part of the stomach in order to lose weight. Here are some of the most important hurt of vitamin B12 deficiency, and its normal resources: Damage of Vitamin B12 Deficiency Which includes all of the following: Fatigue, Increased heart rate, shortness of breath, pallor in the face; Softness of the tongue, Constipation, diarrhea, loss of appetite, and flatulence. Nerve problems such as numbness, muscle weakness, and trouble walking. Vision loss, psychological problems such as depression, memory loss, or conduct disorders. Vitamin B12 sources, Vitamin B12 can be gained from animal food, which includes dairy outputs, eggs, fish, meat, and poultry. 2. Vitamin B6 deficiency; Vitamin B6 deficiency is not familiar to many people. The following are the main damages of vitamin B6 deficiency and its doubled resources: Vitamin B6 deficiency side effects contain all of the following: Anemia. EEG malformation. Dermatitis. Cracks in the lips and corners of the mouth.

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Tongue swelling; Depression and disorder. HIV. Vitamin B6 sources; Vitamin B6 is found in many foods, the most important of which are fish, liver, potatoes, and fruits unless for citrus fruits.

3. Vitamin B1 deficiency; The following are the most important harm of vitamin B1 deficiency, and its most important sources: vitamin B1 deficiency side effects, The prejudices of vitamin B deficiency of this type contain: trouble with the nerves of the extremities. Loss of appetite and weight. Memory loss. Muscle weakness; Cardiac hypertrophy. Vitamin B1 sources; Vitamin B1 is set in abundance in the outer skins of grains, mushrooms, meat, nuts, whole grains, flower, liver, oranges, eggs, and potatoes. 4. Vitamin B2 deficiency; the following are the most serious damages of vitamin B2 deficiency, and its sources: Vitamin B2 deficiency side effects; include the following: Cracked corners of the mouth. Chapped lips. Skin dryness. Inflammation of the lining of the mouth. glossitis; mouth ulcers; redness of the lips; Sore throat. Anemia. Eye allergy. Vitamin B2 source vitamin B2 is found in most foods such as fish, poultry, meat, liver and kidneys, eggs, dairy products, avocados, cereals, artichokes, mushrooms, nuts, squash, and sweet potatoes. 7. Vitamin B3 deficiency; the following are the most important harms of vitamin B3 deficiency and its different sources: Vitamin B3 deficiency side effects, which are the following: Serious burning of the skin. Vomiting; diarrhea. Headache; Tired. memory loss. Vitamin B3 sources; the following foods are rich in vitamin B3: fish, chicken, turkey, meat, mushrooms, brown rice, peanuts, peas, and avocados. 8. Vitamin B9 deficiency; The following are the most important hurts of vitamin B9 deficiency, which is known as folate, in addition to its most known sources: Vitamin B9 deficiency side effects, which contains each of the following: Anemia. Neural tube troubles. Heart problems; raise heart rate and limited breath. Tiredness, hardness focusing, and headache. Vitamin B9 sources; the following foods are rich in vitamin B9: green leafy vegetables, grains, legumes, nuts, sunflower seeds, fresh fruits, whole grains, liver, seafood, and eggs [6]. There is a study titled "Be Well: A Possible Role of Vitamin B in COVID-19," the study outputs stated' Vitamin B not only helps to structure and keep a healthy immune system, but it could potentially stop or minimize COVID-19 symptoms or cure SARS-CoV-2 infection. Poor nutritional status predisposes people to contagions more easily;

therefore, a balanced regimen is needed for immuno-competence. There is a requirement for safe and cost-effective adjunct or therapeutic processes, to hold wandering immune stimulation, which can command a cytokine storm, and act as anti-thrombotic agent's convenient vitamin intake is necessary for favorable body function and the strengthening of the immune system. In particular, vitamin B modifies immune reply by down regulating pro-inflammatory cytokines and inflammation, decreasing breathing difficulty and gastrointestinal problems, preventing hypercoagulability, potentially improving outcomes, and reducing the length of stay in the hospital for COVID-19 patients [7].

## 2. Material and Methods

This study started in (the city of Mecca in the kingdom of Saudi Arabia), began writing the examination, then writing the questions in July 2022, and the study ended data collection in October 2022. The exploration used the descriptive analytical path that uses a quantitative or qualitative description of the social phenomenon, and (The effect of vitamin B deficiency on human health). This kind of study is described by analysis, reason, objectivity, and reality, as it is concerned with persons and cultures, as it studies the deferrable and their impacts on the health of the personal, community, and consumer, the expand of illness and their relation to demographic various such as age, gender, nationality, and marriageable case. Status, functions [1], and use of the Office Group 2010 histogram for Excel to rank the results by dragging them on the statistical software [2].

## 3. Results and Discussion

The question is a convenient and main device to collect data. However, examiners cannot attitude personal interviews with Participants' answers to the online questionnaire, because of the social precluding regulations at that time direction studies to keep away infection between participants and researchers and vice versa. It is also it was enough to answer the questionnaire electronically only as the questionnaire consists of eleventh questions, which are closed. The online approach has also been, used to produce valid specimens in like studies in Saudi Arabia and others [3].

**Table 1:** The effect of vitamin B deficiency on human health

Questions	Yes	No
Which about do you check for vitamin B in your blood recently?	21.3 %	78.7 %
Did you tell the laboratory technician that you take vitamin B compound before undergoing medical examinations	4.4 %	95.6 %
Do you diversify your diet to maintain your health?	73 %	27 %
Do you exercise daily in the day at a rate of half an hour a day?	34.7 %	65.3 %
Do you eat fruits and vegetables on a daily basis	48 %	52 %
Do you eat dairy products and nuts on a daily basis	37.3 %	62.7 %
Do you eat red and white meat periodically	77.3 %	22.7 %
Have you ever taken an overdose of B-complex vitamins	4 %	96 %

For the first question, which about do you check for vitamin B in your blood recently? If your answer is yes, answer the next question, the number of those who said yes was 21.3 % and those who said no was 78.7 %, the second question was did you tell the laboratory technician that you take vitamin B compound before undergoing medical examinations? 4.4 % answered yes, and 95.6 % of those who answered "no"

answered, the third question: Do you diversify your diet to maintain your health? 73 % answered, while 27 % said no. As for the fourth question, do you exercise daily in the day at a rate of half an hour a day? 34.7 % answered yes while 65.3% answered no, the fifth question was about to do you eat fruits and vegetables on a daily basis. The percentage of those who answered yes was 48%, while 52 % said no, the

sixth question was about to do you eat dairy products and nuts on a daily basis. 37.3 % answered yes, while, 62.7 % said no, the seventh question was about to do you eat red and white meat periodically. 77.3 % answered yes, while 22.7 % said no, the eighth question is about, do you suffer from the following symptoms? 13.8% responded headache, fatigue or weakness and bowel problems 18.5 %, nerve damage and tingling in the hands and feet 9.2 %, nausea, vomiting, and diarrhea 1.5 %, muscle weakness and anemia 3.1 %, all of the above 4.6 %, while those who answered “no” were their percentage is 16.9 %. The ninth question was about whether you have ever taken an overdose of B-complex vitamins. If your answer is, yes? Answer the next question. 4% said yes, while 96 % said no, the 10th question was about to do you suffer from the following symptoms after taking an overdose of B-complex vitamins. 20.5 % answered extreme thirst, diarrhea with answers to all of the above 2.3 %, colic and blurred vision 6.8 %, nausea, vomiting, and redness of the skin 2.3 %, while those who said no 56.8 %.

#### 4. Conclusion

Class B "neurotropic" vitamins are especially important for the health of your nervous system; that's why it's called "neurotropic". This group of vitamins consists of thiamine, (B1), pyridoxine (B6), and cobalamin (B12). They play many different roles including supporting your metabolism and helping to keep and nourish your nervous system, which is working hard 24/7, even when you're asleep. Vitamin B plays an important role in recovering COVID-19 patients.

#### 5. Acknowledgment

Praise be to God, prayer and peace be upon our prophet Muhammad and his family companions, to begin with, we would like to offer big thanks to my brothers who are with me in the research to help me to finish this research, may God to keep them safe to their family and I wish them a lot of good in this world and the hereafter amen

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