Vitamin deficiency: How it will cripple your health during isolation

Your body's lack of vitamins is known in the medical world as avitaminosis, and it's a health issue that is rarely seen in our modern times.

Due to low vitamin deficiency cases, most medical professionals are unfamiliar with their effects, although, throughout the times of war and famine, such issues have been well documented.

In some instances, your family doctor won't know what's wrong with you, and he will send you to the nearest hospital for some thorough investigations and blood tests. This is the standard procedure nowadays, and it's pretty straightforward.

However, what happens when you have to bug in and survive in an environment where professional medical aid is not available?

It will be upon you to recognize the signs of avitaminosis, and you will have to do whatever is necessary to prevent your loved ones from becoming vitamin deficient. This article aims to familiarize Survivopedia readers with vitamin requirements and help them spot the signs and effects of vitamin deficiency.

Understanding how vitamins work

To understand how specific vitamins work and what benefits they may bring to your body, you first need to know how much food the average person needs. An improper caloric intake is often the cause of vitamin deficiency.

The Harris-Benedict formula for resting-state basal metabolism rate helps us calculate the number of calories both men and women at rest need. Here are the formulas:

- Men 66.4 + 13.7xW + 5xH – 6.7xA = Number of calories.
- Women 655 + 9.5xW + 1.8xH – 4.6xA = Number of calories.

In the above formulas, W is the body weight in kilograms, H is the height in centimeters, and A is the age in years.

For example, if you are a 42-year-old male with a height of 70.9 inches and 160 pounds, you will need 1682 calories per day while lying in bed. The more work you do, the more calories are required.

Even more, if you experience a health issue, the number of needed calories required will increase based on various particularities. For example, here is the confidence range for various physical problems:

- Trauma increases the calories need by up to 30 percent (the range is between 20-30 percent)
- In case of burn injuries, the calories required will increase by 50 to 110 percent
- The average surgical procedure raises the required calorie intake by 10 to 20 percent
- Starvation without health complications increases the number of calories by 10 percent
- Infections require between 30 and 60 percent more calories to assure a proper body functioning

Other factors such as medical history, race, body weight, and

physical condition will influence the need for calories and vitamins. Remember that no two people are alike, and their needs may be different.

Here’s a general look at vitamin deficiency

Vitamin A deficiency

Vitamin A is required for good vision, and it’s necessary for the formation of the retinene. It also helps the formation of new cells and promotes cell growth, making it an essential aid in wound healing. It is also known as the vitamin responsible for increasing the human lifespan and protecting us from certain mental illnesses such as senility. Death occurs in almost 50 percent of cases of long-term A avitaminosis.

Those suffering from vitamin A deficiency will experience eye problems (night blindness is the most common one) and eye damage that, in time, can lead to partial or total blindness. Children are the most exposed ones, and they will often lose color vision.

Other effects caused by vitamin A deficiency in both children and adults are:

- Decreased urine secretion with blood or pus sometimes present
- Dryness of the skin with a rough texture and aspect (also known as toad skin)
- Breathing troubles
- Nausea and digestive problems
- Impaired bone formation and retarded growth
- Susceptibility to infection and mental retardation

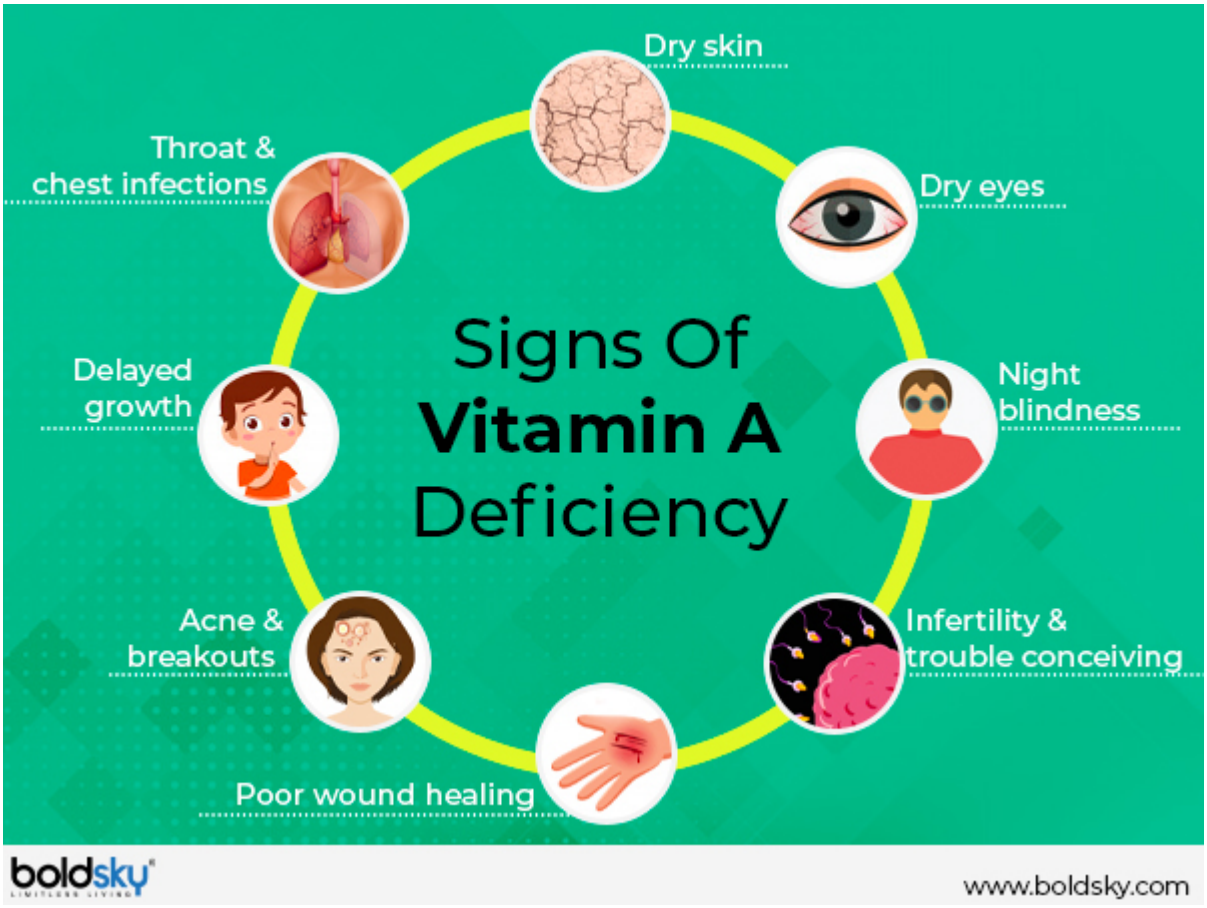
The USRDA (the U.S. recommended daily allowance) for vitamin A is around 1.5 milligrams (5,000USP units). It is also important to note that Vitamin E influences vitamin A in the

body, and those suffering from vitamin E deficiency will eventually become vitamin A deficient.

The good news is that vitamin A is present in almost all solid foods, and just 3.5 ounces of beef liver can provide for times the daily recommended allowance.

The abundant vitamin A content of various foods will often lead to overdoses, and these are, in fact, much more present than deficiencies. An excess of vitamin A will lead to brittle bones, will enlarge your liver and spleen, and you will have an itching sensation on your entire body. It will also cause skin drying and hair loss, headaches and nausea, and menstrual irregularities.

As preppers, we should learn that exposure to cold and working in cold climates will increase the need for vitamin A. Also, since vitamin A is store in the liver, anything that may damage the liver will lead to avitaminosis.



Vitamin B deficiency (B complex vitamins)

The B complex vitamin (B1, B2, B6, B12, and others) are water-soluble and can be easily lost in cooking. Vitamin B deficiency is a rather complex topic since each B vitamin has specific roles. Here are the main benefits of each vitamin and the problems avitaminosis will cause.

B1

B1 vitamin or Thiamine is needed for carbohydrates to be metabolized and maintain a healthy appetite and regular digestion. It also promotes growth and fertility, lactation, but perhaps its most important role in the formation and proper functioning of nervous tissue.

Vitamin B deficiency can cause various problems such as mental instability, paranoia, anxiety, and an overall feeling uneasiness with sudden panic attacks. Even more, it can cause physical problems that shouldn’t be neglected.

Issues such as retarded growth in infants, cardiac beriberi with accompanying problems such as water retention in the hearth and swelling, and heart failure. It was noticed that children suffering from vitamin B1 deficiency lost reflexes in their ankles and knees, leading to severe injuries. No less severe issues include brain lesions and the formation of dry beriberi.

The USRDA links the vitamin B1 intake to the number of calories a person consumes per day. The minimum amount should be 0.35 milligrams per 1,000 calories.

Since the body cannot store a high amount of B1 for more than a few days, anything below the recommended amount will cause a deficiency. It is essential to know that certain foods like raw fish, red cabbage, Brussel sprouts, and various intestinal

disorders will lower the absorption ratio of vitamin B1.

The good news is that due to its water-soluble properties, overdoses rarely happen. To my knowledge, there are no known dangers with taking too much B1 vitamin.

B2

Also known as riboflavin, this is a highly unstable vitamin that can be easily destroyed by exposure to light and heat. For example, more than 80% of vitamin B2 content in cow milk will be destroyed if exposed to sunlight in less than an hour.

This vitamin aids in creating niacin and nicotinic acid that helps convert the food you eat into energy and keeps the nervous and digestive systems healthy. Your eye’s retina requires B2 to adapt easier to light. B2 also helps cells by breaking down proteins, fats, and carbohydrates.

Vitamin deficiency is usually caused by any factor that hiders the vitamin B2 absorption in your body. Prolonged diarrhea and a poor diet are the leading causes of avitaminosis. Another reason that leads to avitaminosis is mild and major trauma.

B2 deficiency affects the eyes, and the patient may develop cataracts, dim vision, impaired color vision, burning and itching sensation, and mild to extreme sensitivity to light. In some people, the development of cloudy or ulcerated retina was noticed.

Another effect of vitamin B2 deficiency is noticeable on the skin as false psoriasis may be present on the nose and ears and the labia major and around the scrotum. Cracks and soreness on the lips are often present, and it impairs the overall healing of wounds. In children, vitamin B2 deficiency is known to hinder growth, and in adults, death may occur if the lack prolongs for too long.

B2 levels in the body should be checked periodically,

especially in pregnant women, since avitaminosis may lead to malformed children.

The USRDA lists an intake of 0.5 milligrams per 1,000 calories of food consumed by both men and women and an increase up to 2.0 milligrams per day for pregnant women for the same amount of calories.

B6

This vitamin is also known as hydrochloride salt or pyridoxine, and it’s easily destroyed by ultraviolet radiation. B6 has two variations (Pyridoxal and Pyridoxamine) that are destroyed easily when exposed to air, heat, and light.

Your body needs vitamin B6 to process amino acids and fats, mainly unsaturated fats. It’s also required to produce antibodies and help cells functioning normally.

In general, vitamin B6 deficiency produces the same skin disorders listed for B2, but symptoms may also include:

- Hyper irritability
- Lethargy or confusion
- Extreme response to sensory input
- Tingling sensation in hands and feet
- Loss or impairment of various senses such as position or vibration
- Anemia and blood cell size discrepancies
- Loss of appetite and vomiting
- Convulsions in infants

Keep in mind that these symptoms may vary significantly from one person to another, depending on age and causes that lead to avitaminosis.

The USRDA for adults (both male and female) is 2.0 milligrams per day, but it is essential to acknowledge that major trauma

is one of the causes that leads to fast B6 depletion. In such cases, the patient requires about 40 milligrams per day and the preferred method of administration is by injectable pyridoxine, keeping in mind that intramuscular injections are painful.

B12

Also known as Cyanocobalamin, this vitamin is oxygen and light stable, and it can resist various low levels of heat. B12 is necessary for children as it assures healthy growth with no impact on weight gain. More precisely, it keeps a stable weight in growing children. Even more, it will add weight to growing children that are given an improper diet.

B12 vitamin is needed for red blood cell development and is often given to patients suffering from Anemia.

Deficiency is noticeable in those that adopted a strictly vegetarian diet and is also caused by traumatic damage to the stomach or various diseases (tuberculosis, Crohn’s disease, inflammation of the lower intestine, etc.).

Effects caused by vitamin B12 deficiency are:

- Anemia
- Central nervous system damage that leads to optic damage and mental disorders
- Reflex changes
- Loss of coordination

The USRDA lists an intake of 5 milligrams per 1,000 calories of food, and in case of major trauma, medical literature recommends doubling the USRDA limit.

Vitamin C deficiency

One of the most fragile vitamins, vitamin C, is often lost during cooking and if we stop the intake of vitamin C, it will

deplete from our body much faster than other vitamins. It is highly affected by the weather conditions, and if we work in a cold environment, the regular 60 milligrams USRDA needs to jump to 200 or 250 milligrams per day.

Vitamin C is needed to form collagen in your body, the substance that heals wounds and promotes scar tissue formation. It also helps in the production of dentine, cartilage and bone salts, and calluses. Vitamin C is required for the formation and growth of teeth, but it’s also needed to form capillaries and ensures they are correctly functioning.

In trauma cases, to heal the wounds and repair damaged bones, the amount of vitamin C needed is around 80 milligrams per day in mild trauma cases. For severe trauma cases, the vitamin C intake needs to be increased to 300 milligrams per day, keeping in mind that the more critical the trauma, the faster vitamin C will be depleted from your body.

Vitamin C deficiency will cause many problems, but perhaps the most important one is scurvy, a condition that sailors feared back in the day. The disease starts with swelling and bleeding of the gums and loosens of teeth follows. The capillaries will be affected, and bleeding under the skin will begin to appear, forming blue and black spots. Anemia will settle in as blood loss continues and the lack of appetite doesn’t provide the needed nutrients. The patient will have trouble breathing and an increased heartbeat.

As said before, vitamin C helps heal wounds, and if the daily USRDA intake is not maintained, the cells that help the healing process by providing and binding collagen will not function properly. For example, in people suffering from vitamin C deficiency, hematomas take much longer to be absorbed by the body.

Overdoses are rare, but they appear in people who do not require an additional vitamin C increase. For example, in

people with a dose of 12 grams or more of vitamin C per day, the formation of kidney stones was accelerated, renal tubular acidosis was forming (acidic urine), and crystals in the urine were present.

Vitamin D deficiency

This type of vitamin deficiency is relatively rare since the vitamin is synthesized by sun exposure (presence of ultraviolet light). Until a few decades ago, vitamin D deficiency was common only in countries with long winter. Nowadays, C avitaminosis is present in countries affected by pollution where an increased amount of smog and dust are present in the air, preventing proper skin to sun exposure.

Vitamin D is needed in our bodies to form bone and teeth, assuring the strength of both throughout our lifetime. D avitaminosis causes the softening and sponging of bones in adults. Still, it’s more dangerous in children where it causes rickets (a skeletal disorder). Rickets can affect all developing bones in children, leading to serious health issues like curved spinal columns or oddly shaped skulls.

Another issue that may develop in both children and adults is tetany, a health condition characterized by the overstimulation of nerves that lead to muscle cramps and twitching, most commonly present in the hands and feet.

The USRDA for vitamin D is just 12 milligrams, but the problem is that there are few food sources with a good amount of vitamin D. Fish, liver, and egg yolks are the prime sources we human use, but there is another source that is unknown to many, wild bees.

Bees were a food source in many cultures due to their incredible amount of vitamin D content. Survivalists recommend bees as a food source since just three and a half ounces of wild bees contain about 15,000 times the USRDA for vitamin D.

Symptoms of vitamin D deficiency are:

- Loss of appetite
- Nausea and vomiting
- Excessive urination and an increase in the formation of kidney stones
- An increased amount of calcium present in the bloodstream
- Slow growth and loss of strength

Overdoses are not common since the human body needs to exceed 60 milligrams per bodyweight to feel the toxic effects. Unless you eat that three and a half ounces of wild bees serving we mentioned above, you should have nothing to worry about.

Vitamin E deficiency

This vitamin deficiency is relatively rare since vitamin E is present in almost all-natural plant oils. However, when it does occur, the symptoms may differ from one person to another, and blood work is necessary to set a correct diagnosis.

Symptoms of vitamin E deficiency are:

- Increased oxygen consumption (short breath symptoms)
- Lower body assimilation of vitamin A
- Muscular dystrophy
- Low libido in men
- Possible sterility in women

Your body requires vitamin E to ensure proper vitamin A absorption (it acts as an anti-oxidant). It protects itself from harmful agents such as methyl chalcanthite, carbon tetrachloride, and alloxan. It was also shown that a proper intake of vitamin E makes sperm mobile, and it also helps fix

the placenta in the womb.

The USRDA is 10 milligrams per day, and it’s important to avoid vitamin E deficiency during pregnancy as it will cause damage to the fetus.

Vitamin K deficiency

Our intestinal bacteria produce this vitamin, but it also forms in nature. Vitamin K is considered a clotting agent as it helps in the formation of blood clots by aiding our bodies to produce Thrombin (a plasma glycoprotein).

Vitamin K deficiency will cause hemorrhages as it delays the blood clotting time, and the primarily affected organs are the eyes, kidneys, the bladder, and the brain.

Because vitamin K forms in the intestines, deficiencies are almost always caused by the intestinal flora’s death. Causes of bacteria death in your intestine may be multiple, and they can vary from exposure to radiation to administrating oral antibiotics and liver damage caused by other illnesses.

The USRDA is 0.30 milligrams per day, and one of the best sources of vitamin K is alfalfa. For example, three and a half ounces of alfalfa provides about 0.8 milligrams.

Concluding

The keen prepper will know to store various vitamins in low-dose pill form keeping in mind the USRDA, but they will also pay attention to their expiration dates. If you have the opportunity, you should buy vitamin tablets or pills divided into equal parts to ensure proper dosage.

Keep in mind that the onset of vitamin deficiency is slow, and you may not realize that there’s something wrong with your body. This article should provide you with info to recognize

if you encounter any of the vitamin deficiencies listed. It should also help you establish if your food supplies provide a complete meal for more extended periods and adjust them accordingly.

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