

# Action needed on vitamin B12 deficiency in people following plant-based diets

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Plant-based diets (vegetarian or vegan) are becoming significantly more popular as people look to adopt a diet that is seen to be better for the environment, animal welfare, and/or personal health. Sales of plant-

based foods have seen a 49 percent increase in Western Europe since 2018.

Scientists from around the world with expertise in food, nutrition, medicine, and health have formed a [vitamin B<sub>12</sub>](#) research discussion group called cluB-12 to raise awareness of B<sub>12</sub> deficiency and how it can be addressed. Vitamin B<sub>12</sub> is an essential micronutrient which plays a role in supporting [red blood cell production](#), energy, metabolism, and nerve function, but it is not found in plants.

Professor Martin Warren of the Quadram Institute in Norwich, UK, who helped initiate cluB-12, is keen that the public and policymakers are aware of the public health implications and measures needed to mitigate Vitamin B<sub>12</sub> deficiency.

Vitamin B<sub>12</sub> deficiency anemia can cause a wide range of symptoms. These usually develop gradually but can worsen if the condition goes untreated. Anemia is where you have fewer red blood cells than normal, or you have an abnormally low amount of a substance called hemoglobin in each red blood cell.

General symptoms may include: extreme tiredness (fatigue), lack of energy (lethargy), tinnitus, breathlessness, feeling faint, headaches, pale skin, noticeable heartbeats (palpitations), loss of appetite and weight loss.

The Quadram Institute's Professor Martin Warren said: "There is a hidden epidemic of vitamin B<sub>12</sub> deficiency among vegetarian and vegan populations and this is a particular concern for women of child-bearing age. We are concerned that the current UK recommendations, for example, take no account of pregnancy and this urgently needs to be addressed."

"There are many good reasons to follow a planned and balanced plant-based diet but for a vegan diet especially you should be aware of the potential for nutritional deficiency and the need to take appropriate vitamin B<sub>12</sub> supplements."

Dr. Kouros R Ahmadi, co-author from the University of Surrey, said: "Millions of people across the globe are switching to a plant-based diet for a myriad of ethical reasons—whether it's because they have a love for animals or environmental reasons. Our paper is not about convincing people they are wrong for becoming vegans, but about making sure they are safe and don't sleepwalk into being B<sub>12</sub> deficient.

"Furthermore, there clearly needs to be a global consensus on guidance on daily intake recommendations for vitamin B<sub>12</sub>—not just for adults but specifically for pregnant women and women who want to start a family."

Key recommendations for people choosing a vegan or [vegetarian diet](#):

- Take a daily supplement containing 4–7 micrograms of vitamin B<sub>12</sub> with food
- Monitor your vitamin B<sub>12</sub> status especially if you have not been taking supplements
- Get expert advice to support planning of a plant-based diet, particularly if becoming vegan
- Get expert advice if you're on a [vegetarian diet](#) and you are a) planning to become vegan, b) planning to become pregnant or are breastfeeding and c) older than 60

International recommended nutritional intakes

- UK—recommended nutritional intake (RNI) for vitamin B<sub>12</sub> is set at 1.5 micrograms a day for adults and no adjustment is made for pregnancy

- U.S.—the RNI is 2.3 micrograms a day and increases to 2.6 and 2.8 a day for pregnant and breastfeeding women, respectively
- EU—4 micrograms a day and increases to 4.5 and 5 for pregnant and breastfeeding women, respectively

People following a [vegan diet](#) are at much higher risk of vitamin B<sub>12</sub> deficiency. Estimates suggest deficiency rates as high as 62 percent in pregnant women. In vegetarians, B<sub>12</sub> deficiency is as high as 40 percent.

Research undertaken by the Food Databanks National Capability at the Quadram Institute also shows that vegan products in UK supermarkets do not commonly or adequately fortify their [vegan](#) food products with vitamin B<sub>12</sub>.

Provided by University of Surrey

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