

Quinn on Nutrition: Does vitamin B-1 repel mosquitos?

July 26 2019, by Barbara Quinn



Anopheles gambiae mosquito, feeding on blood. Credit: James Gathany, Centers for Disease Control and Prevention

As I sit here scratching a mosquito bite, I'm suddenly interested in a recent question from a patient. Do vitamin B-1 supplements repel

mosquitos? Here's what I learned:

Mosquitos transmit several diseases, including malaria and West Nile virus. And they find their hosts (you and me) mostly by their sense of smell, say experts. Thus, most effective repellents work—not by killing mosquitos with chemicals—but by preventing them from wanting to come close to you in the first place.

Why do some people naturally attract mosquitos and others don't? We all have natural chemistries that produce odors that are either attractive or repugnant to mosquitos. Pests are also drawn to sweet scents such as floral perfume, report some studies.

The theory with [vitamin B-1](#) (also known as thiamin) is that it changes the chemistry of the blood and alters one's smell to make it less attractive to mosquitos.

But does it work?

A fascinating study in the *Journal of Insect Science* by researchers in the Department of Biology at New Mexico State University (go Aggies!) recruited brave volunteers to subject their hands to hungry mosquitos after using a variety of insect repellants (including a skin patch of vitamin B-1). Here are their results:

Repellants with DEET (N,N-diethyl-meta-toluamide) reduced the attractiveness of the volunteers' hands to mosquitos by the largest margin. Rather than killing them, DEET makes it hard for biting bugs to smell us, says the Environmental Protection Agency (EPA). It is safe for use on adults and children.

Of the non-DEET repellants tested, one with oil of lemon eucalyptus and p-menthane-3-8-diol (a chemical found in fruit that smells similar to

menthol) also worked well to deter hungry mosquitos.

And what about the vitamin B-1 patch? These scientists found that 300 milligrams of vitamin B-1 transferred through the skin from a patch did not repel mosquitos. Other studies with vitamin B-1 supplements taken orally have shown inconsistent results. Perhaps that's because some people have more natural mosquito-repelling odors than others.

Researchers at NMSU did find one surprise, however. A perfume called Victoria Secret Bombshell (ingredients unknown) strongly repelled mosquitos for more than 2 hours.

So, although vitamin B-1 hasn't been shown to be the most effective to repel mosquitos, it's not likely to harm you if you try it. While the usual daily recommendation for thiamin (vitamin B-1) is 1.1 to 1.2 milligrams a day for women and men respectively, the doses given to protect against mosquitos is around 300 milligrams a day. Excess amounts are excreted in the urine and there is currently no evidence that high doses of B-1 taken orally is toxic.

So there you have it. Eat well. Live well. And use a reliable insect repellent.

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