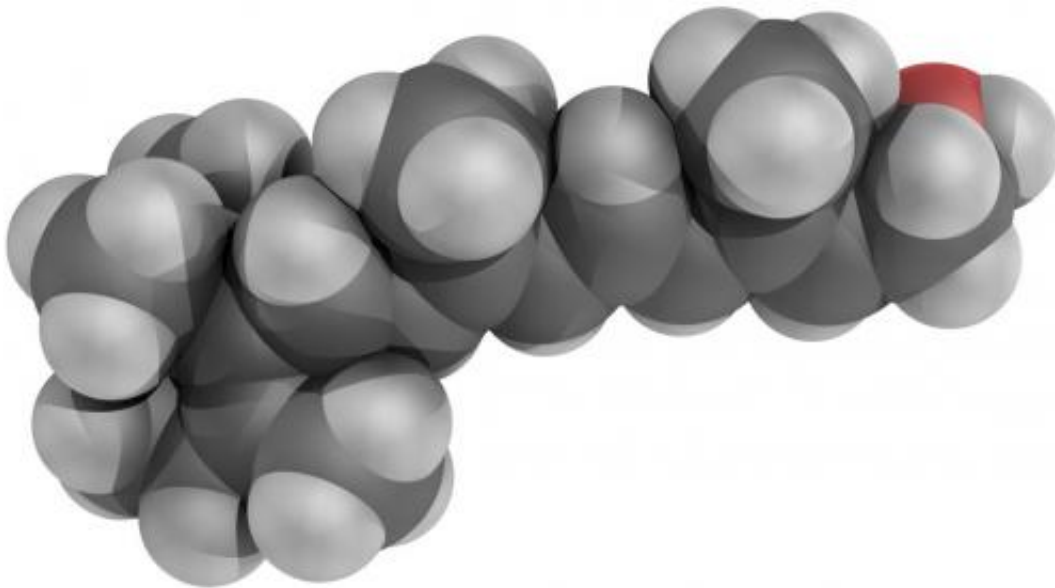


Children who get vitamin A may be less likely to develop malaria

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Retinol or Vitamin A 3D space model (balls model). Credit: YassineMrabet, Wikipedia.

Children under age 5 living in sub-Saharan Africa were 54 percent less likely to develop malaria if they had been given a single large dose of vitamin A, new research led by the Johns Hopkins Bloomberg School of Public Health suggests.

The researchers say their findings, published Feb. 3 in the online journal *eLife*, indicate that vitamin A may protect children against the mosquito-borne [malaria](#) parasite, especially if administered under certain

conditions, such as during the wet season, when malaria-infected mosquitos are most prevalent.

"More than half of the world's population is at risk of contracting malaria, and the disease is a leading killer of children in some parts of the world, so we urgently need to find better ways to combat it," says study leader Maria-Graciela Hollm-Delgado, MSc, PhD, a postdoctoral fellow in the Department of International Health at the Johns Hopkins Bloomberg School of Public Health. "Our research found that children who received vitamin A supplementation were less likely to become infected with malaria. Now we need to test vitamin A in a randomized controlled clinical trial to better understand whether this could really be an effective way to prevent this disease."

For their research, Hollm-Delgado and her colleagues analyzed national survey data from four sub-Saharan countries (Burkina Faso, Mozambique, Rwanda and Senegal) on more than 6,100 children between the ages of 6 and 59 months. The researchers were looking for possible links between malaria rates and several types of childhood vaccines as well as vitamin A supplementation. Only vitamin A was found to be protective against the disease.

Vitamin A appeared to be more protective under certain circumstances, including when administered during the rainy season, as well as when given to older children and when more time had passed since supplementation.

The researchers aren't certain why vitamin A would reduce the rate of [malaria infection](#), but they suspect it is because vitamin A, which is known to boost immunity, and improve the ability to fight off infection, may help the body clear out the [malaria parasite](#) more quickly.

Only 62 percent of the children in the study had received vitamin A

supplementation, despite the known link between vitamin A deficiency and blindness and even death. Rates were higher for many vaccinations, Hollm-Delgado says. Even though World Health Organization guidelines recommend that all children in sub-Saharan Africa receive a single large dose of vitamin A, Hollm-Delgado says that the guidelines aren't as specific as they are for most vaccinations, and that vitamin A supplementation may be less likely to be administered as a result.

Malaria is a major [public health](#) challenge with more than 7 percent of deaths among [children](#) under 5 worldwide attributable to the disease. More than 80 percent of malaria cases occur in sub-Saharan Africa. The disease is most often prevented through the use of mosquito nets around beds. So far, vaccines against the disease have not been very successful. A promising vaccine candidate still under development is only 50 percent effective, Hollm-Delgado says.

More information: "Vitamin A supplements, routine immunization, and the subsequent risk of Plasmodium infection among children under 5 years in sub-Saharan Africa" elifesciences.org/content/4/e03925

Provided by Johns Hopkins University Bloomberg School of Public Health

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