

New WHO test-based approach against malaria does not work everywhere

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In view of the sharp rise in treatment costs of malaria, the World Health Organization (WHO) says that there must be a hard diagnosis before the disease is treated. The WHO is deploying rapid tests, a variation of the well-known pregnancy test in which a drop of blood is used. Researchers at the Antwerp Institute of Tropical Medicine (ITM) conclude that the new approach is unreliable and that the costs outweigh the benefits in areas where malaria is highly endemic.

The researchers carried out a study in Burkina Faso to check whether the introduction of malaria [rapid tests](#) was worthwhile.

First of all, they showed that the test does not detect all malaria cases, especially in small children who are most vulnerable to the disease. Furthermore, the researchers saw that nurses were still treating four out of five patients for malaria despite a negative test. Because the disease cannot be excluded based on symptoms, the local habit in the case of fever is to treat the patient for malaria.

There were also false positive tests from people who carried the [malaria parasite](#), whereby they continued to maintain resistance but were ill for other reasons. As a result they underwent an unnecessary [malaria treatment](#) while, for example, the pneumonia or meningitis that caused fever were not treated.

On Friday (June 28), Zeno Bisoffi receives a PhD from the University of Antwerp for his research at ITM:

"The test-based approach of the WHO is unsuitable for regions where a lot of malaria occurs. The test results are unreliable and it is too expensive to test everyone. The WHO would do better to just treat children in those areas on the basis of fever. They are the most vulnerable, while malaria is rarely severe in [adult patients](#)."

"During the rainy season, when malaria is most prevalent, rapid testing could be used on adults. In this case, on the basis of cost-benefit considerations, a fever-based treatment with a cheap but less effective combination of medicines is an alternative."

A rapid test costs € 0.70, while an artemisinin therapy costs € 1 per child and € 2 per adult.

Diagnosis and treatment of malaria cannot be delayed, since a mild illness may quickly develop into a life-threatening condition. Treatment was extremely cheap in the past, but the effective drugs, the combinations with artemisinin derivatives, are rather expensive today.

The diagnosis is usually made by microscopy: a drop of blood is stained and examined under the microscope. In Africa, especially in poor countries such as Burkina Faso, microscopy is absent in health centres. There, a diagnosis is made on the basis of symptoms. A reliable rapid test could provide a solution to this. If the test is positive, the patient is treated for malaria. If it is negative, another cause for the fever must be sought. ITM researchers are working on the evaluation and improvement of these tests.

ITM seeks to contribute to eliminating malaria by means of multidisciplinary research in worldwide partnerships. Its researchers search for solutions at the level of the parasite, the mosquito, the patient and the community.

More information: Bissoffi, Z. et al. The Role of Rapid Diagnostic Tests in Managing Malaria.

www.plosmedicine.org/article/info

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Bisoffi, Z. et al. Diagnosis of malaria infection with or without disease.

www.mjhid.org/article/view/10156

Provided by Institute of Tropical Medicine Antwerp

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