

# Study reveals substantial misdiagnosis of malaria in parts of Asia

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Substantial overdiagnosis and mistreatment of malaria is evident in south and central Asia, warns a study published in the *British Medical Journal* today.

With more than two billion people at risk of malaria in this part of Asia - larger than that of Africa - this is a major public health problem which needs to be confronted, say the authors.

Malaria remains one of the most important infectious diseases of poverty. Recent global malaria treatment guidelines recommend that patients are treated with anti-malaria drugs only when a diagnostic test positively identifies malaria parasites in the patient's blood.

In Africa, however, many patients are treated for malaria even when the parasite test is negative, resulting in other severe infections being missed and drugs being wasted. Yet the extent of this problem in south and central Asia is relatively unknown.

So, a team of researchers set out to assess the accuracy of malaria [diagnosis](#) and treatment for over 2,300 patients with suspected malaria at 22 clinics in northern and eastern Afghanistan.

Some clinics used microscopic diagnosis, while others relied on clinical signs and symptoms to diagnose malaria.

Blood sample slides were collected for every patient as a reference slide

which was read by two independent experts who recorded whether the slide was positive or negative for malaria. This reference result was compared to the result of the diagnosis at the clinic and the treatment given to each patient.

In clinics using clinical diagnosis where malaria is rare, 99% of patients with negative slides received a malaria drug and just over one in 10 (11%) received an antibiotic.

This compares with clinics using newly introduced microscopy, where 37% of negative patients received a malaria drug and 60% received an antibiotic. In clinics with established microscopy, 51% of negative [patients](#) received a [malaria drug](#) and 27% received an antibiotic.

Almost all cases were due to vivax malaria, a relatively less serious form of malaria. However, only one in six cases of the rarer but potentially fatal falciparum malaria were detected and appropriately treated.

Compared with clinical diagnosis, microscopy improves the targeting of malaria drugs, but only by half, and it increases the prescription of antibiotics, say the authors.

They argue that misdiagnosis and treatment is caused in equal part by inaccurate microscopy and by the clinicians' tendency to treat with malaria drugs even when a test result is negative, resulting in a 40-50% loss of accuracy in treatment. The results are comparable to findings from Africa, confirming that inaccurate diagnosis and [treatment](#) of [malaria](#) is a worldwide problem.

However, they stress that, efforts to improve diagnostic coverage and accuracy "will be undermined without concurrent interventions to change understanding, behaviour, and practice among clinicians."

**More information:** Overdiagnosis and mistreatment of malaria among febrile patients at primary healthcare level in Afghanistan: observational study, *British Medical Journal*, 2012.

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