



Early, prompt and accurate diagnosis and treatment is crucial to the management of morbidity and mortality caused by malaria and is one of the main interventions used for its global control. Photo credit: WHO Early diagnosis and treatment of malaria are necessary components in the control of malaria. The gold standard light microscopy technique has high sensitivity, but is a relatively time-consuming procedure especially during epidemics and in areas of high endemicity.

Researchers from the Federal Ministry of Health in Sudan attempted to test the sensitivity and specificity of a new diagnostic tool, the Cyscope fluorescence microscope, based on the use of *Plasmodium* nucleic acid-specific fluorescent dyes to facilitate detection of parasites even in low parasitaemia conditions due to contrast with the background.

Researchers interviewed 293 febrile patients above the age of 18 years attending the malaria treatment centre in Sinnar State (Sudan) using a structured questionnaire and collected finger-prick blood samples to be tested for malaria using the hospital's microscope, the reference laboratory microscope and the Cyscope microscope.

The results were then used to calculate the sensitivity, specificity, and positive and negative predictive values of the Cyscope microscope in reference to gold standard light microscopy.

The sensitivity was found to be 98.2%; positive predictive value = 93.3%; and negative predictive value = 99.6%.

The Cyscope fluorescence microscope was found to be sensitive and specific, and to provide rapid, reliable results in under 10 minutes. The Cyscope microscope should be considered as a viable, cheaper and time-saving option for malaria diagnosis, especially in areas where *Plasmodium falciparum* is the predominant parasite.

Citation: Hassan et al. Testing the sensitivity and specificity of the fluorescence microscope (Cyscope) for malaria diagnosis, *Malaria journal* 2010, 9:88 | [PubMed](#) |

This study was technically and financially supported by the WHO Regional Office for the Eastern Mediterranean Special Programme for Research and Training in Tropical Diseases Small Grants Scheme.

Friday 26th of April 2024 06:38:43 AM