

PROJECT BRIEF

RDT Trial Oromia

A health extension worker at her health post in Oromia, Ethiopia

The aim of this project was to evaluate the performance of three multi-species Rapid Diagnosis Tests (RDTs) for malaria through trials in the Oromia Region for future widespread use in Ethiopia

COUNTRY

Ethiopia
Oromia Region

DONOR

USAID/President's Malaria Initiative

LENGTH OF PROJECT

18 months
December 2008 - May 2010

PARTNERS

Federal Ministry of Health, Oromia Regional Health Bureau, Ethiopian Health and Nutrition Research Institute, Addis Ababa University

PROJECT OUTLINE

Access to microscopy services for diagnosis of malaria is very limited in rural areas of Ethiopia. For this reason, the use of rapid diagnostic tests (RDTs) by health extension workers (HEWs) at community level has been common practice since 2005. However the tests used are only able to detect *Plasmodium falciparum* infection. Since a considerable burden of malaria in Ethiopia is due to another species, *P. vivax*, there is a need to ensure that HEWs are able to test for all types of malaria.

The objective of this project is to evaluate the use of three RDTs that are able to detect both *P. falciparum* and other species of *Plasmodium*. This information will be used to advise the Federal Ministry of Health of potential tests appropriate for use in Ethiopia.

Two thousand and four hundred patients with suspected malaria

were recruited into the study from three health centres in Jimma zone, Oromia. Each was tested with three different RDTs and slides prepared for microscopy. This provided information of the performance of the RDTs in a clinically-controlled setting.

At nine health posts in the same area, 18 HEWs received basic training on the use of the multi-species RDTs, before beginning to use them in their routine work at health posts and in the community.

HEWs were interviewed in order to find out about how easy to use and acceptable the tests were. Their preference is important since ability to correctly use the test and interpret results will affect the overall performance of the RDT in an operational setting. This information will also be used to inform training needs and job aids for HEWs when a multi-species RDT is adopted.



Above: Training a laboratory technician to read blood slides at a health centre in Oromia
 Below: The three types of RDTs being tested

The reliability of RDTs under different temperatures is also a deciding factor in choosing a multi-species RDT, and heat stability of the three RDTs will be tested in a controlled laboratory setting according to standard World Health Organization procedures.



ACHIEVEMENTS

- Measuring the sensitivity and specificity of three multi-species RDTs in detecting malaria infections compared to gold standard microscopy.
- Evaluating the heat stability of the RDTs.
- Determining the positive predictive value and the negative predictive value of the RDTs.
- Evaluating the ease of use and acceptability of RDTs in the field by health workers.

This project had a direct impact upon efforts to:

- ✓ Combat malaria
- ✓ Provide health support to at-risk and vulnerable populations
- ✓ Provide operational research outputs

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