

International Conference on **Parasitology**

August 24-26, 2015 Philadelphia, USA

Performance of SD Bioline FK80 (RDT) in diagnosis of malaria and trends of malaria in previous seven years at Adama Malaria Center, southeast Oromia, Ethiopia

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ne of the most pronounced problems in controlling the morbidity and mortality caused by malaria is the limited access to effective diagnosis and treatment in areas where malaria is endemic. The use of RDT (Rapid diagnostic tests) for malaria offers the potential to extend accurate malaria diagnosis to areas where microscopy services are not available, especially in Ethiopia, where malaria is still the first leading cause of health problem. The aim of the study was to evaluate the performance of SD FK80 kit for malaria (P. falciparum/P. vavix) diagnosis and a retrospective record review data routinely collected on malaria cases for seven-years from 2005-2011. This study was conducted from Adama Malaria Center to assess the trends of malaria transmission in Adama district, southeastern Oromia. A cross-sectional study design was conducted. The study was conducted from November to December 2011 at Adama Malaria Center. A convenient sampling method was conducted and a total of 384 blood samples were collected for the study, and for retrospective study, a total of 47,848 acute febrile cases visited the AMC. Blood specimen was collected from each participant for parasitological examination. RDT and blood film slide (thick and thin films) techniques were used to examine the blood specimen. Also parasite load was counted. Data were entered using Microsoft* Excel and exported to SPSS version 16.0 software package for statistical analysis. Of the 384 study participants, 60.9% were males and 39.1% were females. The mean ages of the study participants were 25.5±16.15 years. Microscopic blood film examination showed that among examined individuals, 27.9% (107/384) severe malaria was increasingly observed in P. vivax (27.5%) than P. falciparum (23.3%). The overall performance of SD FK80 was 90.7% sensitive and 96.7% specific to diagnose both P. falciparum and P. vivax using blood film as a golden standard. Positive predictive value and negative predictive value was 91.7% and 96.4%, respectively. Prevalence of malaria cases were 12.9% (6156/47,848) reported in the seven year period considered by this study. As a conclusion SD Bioline FK80 P. falciparum/P. vivax was performed satisfactorily for the diagnosis of P. falciparum and P. vivax infections and it is useful adjunct to microscopy especially in our country where there is limited man power and resource. Generally the trend of malaria from 2007 was increasing and peaked in 2011 and the case of P. vivax was more dominant than P. falciparum in the area.

Biography

Sena Bayissa Disassa has completed her BSc in Applied Biology from Ambo University and also completed MSc in Medical Parasitology from Black Lion College of Health Science, Addis Ababa University, Ethiopia. She has worked as Lecturer and Researcher in Mekelle University since 2012. She has published one paper in reputed journals and has been serving as an IRB (Institutional Review Board) Member of Biomedical Department in Mekelle University, Ethiopia.

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