**BACKGROUND:** Accurate diagnosis of malaria is an essential prerequisite for proper treatment as well as prevention and monitoring of drug resistance. Microscopy is considered the gold standard for malaria diagnosis. It however has limitations, part of which includes the need for special training and retraining for microscopists and an increased patient waiting time. Rapid diagnostic tests (RDT) have however been brought into field operation and it has relevance especially in a high volume outpatient clinic like there is in Wesley Guild Hospital. This present study focuses on the relevance of RDT in the management of uncomplicated malaria among children in the Wesley Guild Hospital, Ilesa.

**OBJECTIVES:** This study set out to determine the sensitivity and specificity of RDT in malaria diagnosis and determine the correlation between RDT and microscopy in detecting malaria among children aged one to five years in the Wesley Guild Hospital, Ilesa.

**METHODOLOGY:** Four hundred and seventy-five children aged one to five years attending the paediatric outpatient clinic at the Wesley Guild Hospital, Ilesa who met the inclusion criteria were serially recruited over three months and studied with a structured questionnaire, malaria smear microscopy and malaria rapid diagnostic test which was performed using SD Bioline Ag Pf/Pan. Socio-demographic information, family characteristics and malaria-related history were obtained from the caregivers while the patients’ vital signs were also measured. The data was analyzed using the Stata® statistical software package, version 10.

**RESULTS:** Of the 475 children studied, 50.9% were males and 49.1% were females. The mean age was 32 (S.D 16.68) months. Majority of the children were between the ages 12-23 months (37.9%), from the upper socio-economic class (76.0%), belonged to average sized families (60.8%) with both parents present (94.1%). Majority were of Yoruba ethnicity (92.4%) and urban dwellers (76.0%). Most (73.9%) had a history of malaria at least once in the preceding six months with nearly half (44.1%) of the households possessing a Long lasting Insecticidal Net (LLIN). Fever was the commonest presenting symptom (98.5%), with 41.5% having temperature levels between 37.5-38.4°C.

RDT was positive for *Plasmodium falciparum* malaria infection in 67.6% of the study subjects while microscopy detected *Plasmodium falciparum* infection in 70.5% of the study subjects. Two hundred and twenty one (46.5%) of all the study subjects had parasite density of less than 1000 per microlitre.

RDT sensitivity was 93.7%, specificity was 95.0% with a positive predictive value of 97.8% and a negative predictive value of 86.4%. The correlation coefficient between RDT and microscopy was 0.864, which showed a strong positive correlation between the two for malaria detection.

**CONCLUSION:** SD Bioline Ag Pf/Pan RDT was highly sensitive and specific for detecting Plasmodium species among children aged one to five years in Wesley Guild Hospital, Ilesa. There was also a positive correlation between RDT and microscopy in malaria detection. RDT is very useful in the prompt and accurate diagnosis of uncomplicated malaria in the study population. RDT is thus an important tool in prompt and appropriate management of childhood fevers. It has
a great potential to reduce malaria overdiagnosis, misdiagnosis of childhood fevers, under-five morbidity and mortality.