

Assessment of Factors Influencing Adherence to Malaria Microscopy Diagnosis in the Treatment of Out-patients at Kisumu County Referral Hospital in Kenya.

Fredrick Odhiambo¹, Harrysone Atieli¹, **Stephen Njoroge^{2*}** and David Sang¹

¹Maseno University,

^{2*}Department of Biomedical Sciences and Technology Technical University of Kenya,

Abstract

Aim: This study sought to assess factors that influence adherence to malaria microscopy diagnosis in the treatment of out-patients in the hospital.

Methods: From April to June 2018, a cross-sectional study was conducted. Semi-structured questionnaires were administered on clinicians and microscopists, while prescription practices of pharmacy personnel and clinicians were observed. To determine microscopy performance, systematically sampled thick blood smears, which had been used to diagnose malaria in out-patients were re-examined for presence or absence of malaria parasites by independent expert microscopists. Each thick blood smear was re-examined by two independent expert microscopists, and in case of discordant results a tie-breaker expert provided reference results for performance measures. Test validity and reliability were determined using Graph Pad Prism v5.01.

Results: Three (30%) clinicians strictly (100%) adhered to malaria microscopy diagnosis during treatment of out-patients, had refresher training on malaria case management and were aware that the laboratory participates in national quality assurance (QA) scheme. At the pharmacy-level adherence to microscopy results during treatment was generally 100% and >98% for clinicians. However, 13 (11%) malaria false-positive participants still received Artemether-Lumefantrine. Of 375 selected blood slides, 118(31.5%) were read as positive at the health facility, while 105 (28%) were read as positive by the experts, (P <0.01). Overall, 96% of test results were concordant with expert reference. The overall inter-reader agreement between hospital diagnosis and experts microscopists was $\kappa=0.91$ (95% CI: 0.87-0.96). Sensitivity was; 99.1% (95% CI: 94.9-100), specificity; 95.2% (95% CI: 91.9-97.4), Positive Predictive Value; 89% (95% CI: 81.9-94) and Negative Predictive Value; 99.6 (95% CI: 97.9-100).

Conclusion: Our results show commendable adherence to malaria microscopy during treatment of out-patients in Kisumu County Referral Hospital. Refresher training on malaria case management for clinician and awareness by clinicians that the hospital laboratory participates in national QA scheme had positive influence on the adherence to malaria microscopy during treatment of out-patients. Malaria microscopy test validity and reliability were commendable

Keywords:

Malaria, diagnosis, microscopy, treatment, validity, reliability

See more at:

<http://www.journaljammr.com/index.php/JAMMR/article/view/30148/56565>