

FINAL EVALUATOR'S comments on revised paper (if any)

Author's sentences on line 151-152

Out of the 406 pupils examined by microscopy only 386 were examined using the CareStart™ Malaria HRP2 pf (CAT NO: G0141, ACCESSBIO) RDT.

So, Total examined samples by microscopy and RDT = 386

Author's sentences on line 189-192

Of the 158 pure *P. falciparum* cases diagnosed by microscopy, only 66 [41.8%, CI = 34.6 – 49.9; estimated population odds (EPO) = 0.73, CI= 0.53 - 0.99] were TP. The number of FP cases in the study population was 40 (17.7%, CI= 13.28 - 23.2; EPO = 0.22, CI = 0.15 - 0.30) while the number of FN was 70 (22.3%, CI =18.0 - 27.2, EPO = 0.29, CI = 0.22 – 0.37) and the difference was statistically significant ($\chi^2 = 16.1$, $P < 0.0001$).

So, TP = 66, FP = 40, FN = 70

TN = Total examined sample by both methods - (TP+FP+FN)

= 386 - (66+40+70)

= 210

On page 9

Table 3: Performance characteristics of the RDT

Performance characteristic of RDT	Effective performance	95% Confidence interval (%)
Sensitivity	41.8%	34.37 - 49.57
Specificity	82.30%	76.8 - 86.7
Negative likelihood ratio	0.707	0.61 – 0.82
Positive likelihood ratio	2.36	1.69 - 3.30
Diagnostic Odds Ratio	3.536	2.09 - 5.31
Positive predictive value	62.26	52.76 - 70.91%
Negative Predictive Value	66.9	61.18 - 72.17%

Sensitivity = TP/ (TP+FN) = 66 / (66+70) x 100 = 48.52% (but in Table 3, Sensitivity 41.8%)

Specificity = TN/ (TN+FP) = 210/(210+40) x 100 = 84 % (but in Table 3, Specificity 82.30%)

So,

1. Authors have to recheck on Performance characteristic of RDT. Some data about the number of FP, FN, and TN seem to be wrong.

2. Authors have to recheck on all references, for example; Ref no4. is wrong but Ref no10. is right.

4. Abanyie AF, Arguin PM., Gutman J. "State of malaria diagnostic testing at clinical laboratories in the United States, 2010: a nationwide survey." Malar J. 2011;10:340. doi:10.1186/1475-2875-10-340

10. Wanji S, Kimbi HK, Eyong JE, Tendongfor N, Ndamukong JL. Performance and usefulness of the Hexagon rapid diagnostic test in children with asymptomatic malaria living in the Mount Cameroon Region. Malar J. 2008; 8(7):643-649.