

FIELD EVALUATION OF A SCHISTOSOME CIRCULATING CATHODIC ANTIGEN RAPID TEST KIT AT POINT- OF-CARE FOR MAPPING SCHISTOSOMIASIS ENDEMIC DISTRICTS IN THE GAMBIA

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Background

- Traditional parasitological methods have been found to be less sensitive in detecting schistosomiasis
- Studies in Sub Saharan Africa have shown that Circulating Cathodic Antigen point-of-care test (POC-CCA) is more accurate for the detection of *Schistosoma mansoni* than the microscopic kato-katz method
- Less information is known about the accuracy of this rapid test in detecting *S.haematobium* infections
- This study evaluated the field accuracy of POC-CCA as a rapid test kits for mapping/ schistosomiasis

Method

- A cross sectional study was conducted in 4 regions namely; Central River Region (CRR) , Upper River Region(URR), Lower River Region(LRR) and North Bank Region(NBR).
- A total of 1954 participants aged 7 to 14 years were randomly selected and enrolled
- Stool and urine samples were examined for schistosomiasis
- POC-CCA, kato-katz, urine filtration and dip-stick methods were used
- Data was collected using the LINKS software, an in-built electronic questionnaire in a smart phone



Fig 1: Enrolment of participants by data collectors using LINKS system



Fig. 2: Kato-katz technique



Fig. 3: Reading urine filtration slides using a field microscope

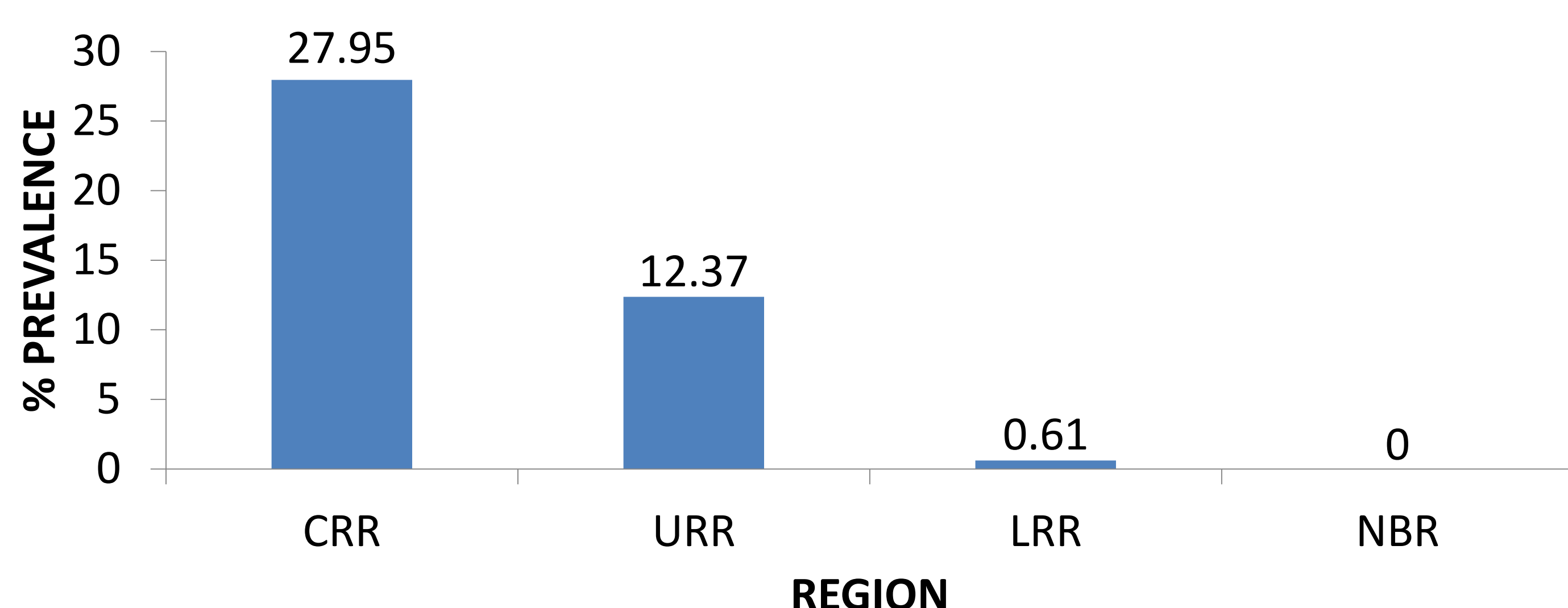


Fig. 4: Test outcome; positive and negative results

Results

- Of the 1954 participants with complete data, the mean age was 9.9 (± 0.05) years.
- The prevalence of children infected with *S. haematobium* and *S. mansoni* in the 4 regions using urine filtration and kato-katz methods were 10.13% and 0.3% respectively
- The sensitivity and specificity of POC-CCA were 47.69% and 75.81% respectively using urine filtration as a reference standard

Fig 1: Regional Prevalence of urinary schistosomiasis, The Gambia, 2015



Distribution of *S. haematobium* and *S. mansoni* Cases by Region

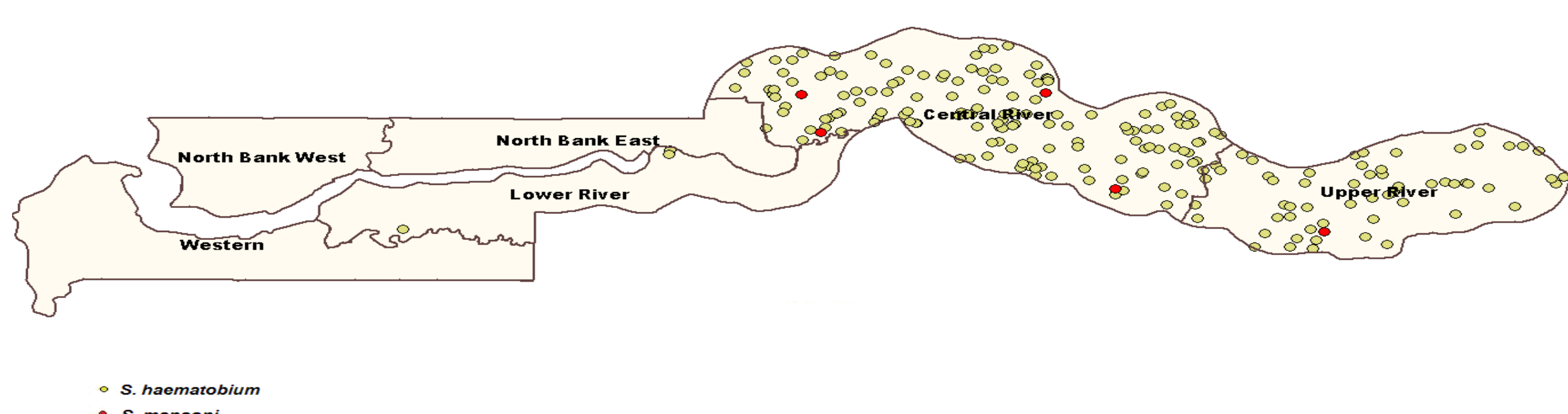


Fig. 3: A distribution map showing co-endemicity of *S. haematobium* and *S. mansoni*

Reference standard	Sensitivity (%)	Specificity (%)
Urine filtration	47.69	75.81
Kato-katz	60.00	71.24

Fig. 2: Sensitivity and specificity of POC-CCA using urine filtration and kato-katz methods as reference standards

Conclusion

This study showed lower sensitivity of POC-CCA in detecting *S. haematobium* compared to *S.mansoni*. Therefore, POC-CCA is less ideal for rapid diagnosis of urinary schistosomiasis.

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