

the detection of CNS involvement in cases of HAT caused by *T. brucei gambiense*. The decrease of trypanosome-specific antibodies concentrations in CSF could be a good parameter for definite cure. High CSF IL-10 levels during treatment follow-up indicate recurring CNS inflammation and treatment failure. An increase of Neopterin in CSF and the presence of trypanosome spliced leader RNA in the blood have a high potential as predictors for treatment failure but need further validation.

**Conclusion** New biomarkers for post-treatment follow-up in HAT should 1) have high diagnostic specificity and sensitivity; 2) be applicable in field conditions; 3) preferentially be performed on blood and thus avoid the painful lumbar puncture during post-treatment control visits; and 4) shorten the follow-up period.

#### PO 8425 THE DIAGNOSTIC AND PROGNOSTIC VALUE OF NEW URINE-BASED *LEISHMANIA* ANTIGEN DETECTION TESTS

Salah Boshara. *Institute of Endemic Diseases, University of Khartoum, Sudan*

10.1136/bmjgh-2019-EDC.93

**Background** Visceral leishmaniasis (VL) also known as kala-azar, is a protozoan infection caused by the *L. donovani* complex and transmitted by sandflies. Early detection of leishmaniasis is critical in management of patients and for successful control and elimination of the disease. Definitive diagnosis of visceral leishmaniasis is by parasitological demonstration of parasites in splenic, lymph node or bone marrow aspirates, which are collected using invasive methods that are unsuitable in the field. This study aimed to evaluate new less invasive urine-based ELISA and rapid diagnostic test (RDT) assays for diagnosis of VL.

**Methods** The newly developed urine ELISA test was evaluated using archived and fresh urine samples collected from parasitologically confirmed VL patients and non-VL cases. Lateral flow assay (LFA) using the ELISA reagents were conducted for day0 samples. Serological tests (DAT, rk28 ICT) were conducted for every patient in the study.

**Results** In 198 patients with suspected VL, urine rapid test had a sensitivity of 72.2% and exhibited a specificity of 93.42%. *Leishmania* antigen ELISA had a sensitivity of 83.33% and a specificity of 95.05%. All VL-confirmed cases were followed up during the treatment period, the *Leishmania* antigen ELISA became negative 2 months after completion of treatment in most patients.

**Conclusion** Urine lateral flow assay is a simple addition to the diagnostics of VL particularly at field level and as a complementary test for the diagnosis of VL in smear-negative cases. Further enhancement of the test will define its performance in monitoring treatment. Further studies are recommended to evaluate the performance of both tests in the diagnosis of HIV-co-infected cases.

#### PO 8426 DELIVERY OF POST-DISCHARGE MALARIA CHEMOPREVENTION (PMC) WITH DIHYDROARTEMESININ-PIPERAQUINE FOR MANAGEMENT OF CHILDREN WITH SEVERE ANAEMIA IN MALAWI

<sup>1</sup>Thandile Gondwe, <sup>2</sup>Bjarne Robberstad, <sup>1</sup>Mavuto Mukaka, <sup>2</sup>Bjorn Blomberg, <sup>1</sup>Kamija Phiri. *<sup>1</sup>University of Malawi, Zomba, Malawi; <sup>2</sup>University of Bergen, Norway*

10.1136/bmjgh-2019-EDC.94

**Background** Children hospitalised with severe anaemia in Africa are at high risk of readmission or death within 6 months after discharge. No strategy addresses this post-discharge period. In Malawi, 3 months of post-discharge malaria chemoprevention (PMC) with monthly 3 day courses of artemether-lumefantrine (AL) in children with severe malarial anaemia prevented 31% of deaths and readmissions. There is now a need to design and evaluate an effective delivery strategy for PMC.

**Methods** This is a cluster-randomised trial whose primary objective is to determine the optimum PMC delivery strategy by comparing community versus health facility-based strategies with the aim to inform policy. Convalescent children under 5 years old, weighing >5 kg, admitted with severe anaemia and clinically stable are included. All children received dihydroartemisinin-piperaquine 2, 6 and 10 weeks after discharge, either: 1) at discharge with SMS reminder; 2) at discharge without an SMS reminder; 3) at discharge and community health worker reminder; 4) at the hospital with an SMS reminder; or 5) at the hospital without an SMS reminder. The primary outcome measure is uptake of courses of PMC drugs. Children will be followed up for 15 weeks. The sample size is 75 children per arm (375 total).

**Results** The study has nearly completed enrollment and preliminary data analysis is in progress. We expect to identify the most effective, cost-effective, acceptable and feasible strategy for delivering intermittent preventive therapy post-discharge for management of severe anaemia in under-five children.

**Conclusion** The findings of this study will be presented; they address the knowledge gap regarding the potentially preventable component of the burden that occurs after discharge from hospital, and inform the optimal delivery strategy for PMC.

#### PO 8430 A GEOSPATIAL APPROACH TO PREDICTING DIARRHEA PREVALENCE IN NIGERIA

Oluwasegun Adetunde. *Department of Geography and Environmental Management, University of Ilorin, Nigeria*

10.1136/bmjgh-2019-EDC.95

**Background** Nigeria ranks second globally only behind India in under-five mortality prevalence. In Nigeria, 108.8 children die per 1000 live births before their 5th birthday. It is of note that diarrhoea (15.3% prevalence) is the second leading cause of under-five mortality in Nigeria after pneumonia. General poor hygiene and nutritional status are contributory factors to diarrhea.

**Methods** Data was collected for severe acute malnutrition (SAM) using the weight for height z-value (WHZ) and/or oedema criteria. In addition, data on diarrhoea prevalence, oral rehydration salt therapy (ORST), improved source of drinking water and improved sanitation were collected. These were obtained for 36 states and federal capital territory (FCT) from the National Bureau of Statistics headquarters in FCT, Abuja for 2015. Correlation analysis was first carried out to determine relationships followed by geographically weighted regression analysis (GWR). GWR was used to predict under-five mortality pattern and accuracy mapped.

**Results** Observed correlation coefficients to diarrhoea prevalence were 0.59, -0.49, -0.35 and -0.63 for SAM, ORST, improved drinking water access, and improved sanitation,