

station in travel agencies (53 [96.4%]). Of the travel agencies, 27 (49.1%) implemented at least one of the recommended COVID-19 preventive measures with 18 (66.7%) applying the recommendation on setting up of a hand washing or disinfection station in their travel agency.

Conclusion During the pandemic, the implementation of the recommendations to limit the transmission of the disease was not fully implemented by travel agencies. A monitoring system should be set up to ensure appropriate implementation of recommendations during epidemics.

PA-69 PERFORMANCE OF ULTRA-SENSITIVE MALARIA RAPID DIAGNOSTIC TEST TO DETECT PLASMODIUM FALCIPARUM INFECTION IN PREGNANT WOMEN IN KINSHASA, THE DEMOCRATIC REPUBLIC OF THE CONGO

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Background Low peripheral parasitemia caused by sequestration of *Plasmodium falciparum* in the placenta hampers the diagnosis of malaria in pregnant women, leading to microscopy or conventional rapid diagnostic tests (co-RDTs) false-negative results. Although mainly asymptomatic, maternal malaria remains harmful to pregnant women and their offspring in endemic settings and must be adequately diagnosed. Ultra-sensitive RDTs (uRDTs) are thought to be more sensitive than co-RDTs, and their diagnostic performance was assessed in the present study in pregnant women living in Kinshasa, a stable malaria transmission area in the Democratic Republic Congo.

Methods To assess and compare the performances of both co-RDTs and uRDTs, 497 peripheral blood samples were tested using microscopy and quantitative polymerase chain reaction (qPCR) as the index and the reference tests respectively. The agreement between uRDT, co-RDT, microscopy and qPCR was determined by Cohen's Kappa test.

Results The median parasite density by qPCR was 292 p/μL of blood [IQR 292 (49.7–1,137)]. Using qPCR as the reference diagnostic test, microscopy was the least sensitive test [55.7% (95% CI: 47.6–63.6)], followed by co-RDT [81.7% (95% CI: 74.7–87.3)] and uRDT [88% (95% CI: 81.9–92.6)]. The corresponding specificity was respectively: 98.5% (95% CI: 96.6–99.5), 95.2% (95% CI: 92.5–97.2) and 94.4% (95% CI: 91.4–96.6). The agreement between qPCR and uRDT was almost perfect (kappa=0.82). For parasite density (qPCR) below 100p/μL, the sensitivity of co-RDT was 62% (95% CI: 47.1–75.3) compared to 68% (95% CI: 53.3–80.4). Between 100 and 200p/μL, the sensitivity of co-RDT tended to be

lower compared to uRDT: 89.4%(95%CI:66.8–98.7) versus 100%(95%CI:82.3–100) for uRDT. In both cases, microscopy was lower, with 20% (95%CI:10–33.7) and 47.3% (95% CI:24.4–71.1) respectively.

Conclusion uRDT tended to be more sensitive than co-RDT in the detection of malaria in pregnant women. Therefore, it has the potential to improve malaria management in pregnant women. Microscopy shows poor performance for the diagnosis of malaria in pregnancy.

PA-71 TB HOUSEHOLD CONTACTS SCREENING IN MOZAMBIQUE, TANZANIA AND ZIMBABWE

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Background Mycobacterium tuberculosis (Mtb) transmission among households contributes significantly to the tuberculosis (TB) burden. Understanding TB risks and the prevalence of Mtb infection in affected households may help designing strategies for case-finding and targeted prevention. The EDCTP-funded ERASE-TB study aims to validate new diagnostic tests in a cohort of household contacts (HHCs) of adults with infectious pulmonary TB.

Methods 2,101 HHCs ≥10 years of age were enrolled across three sites in Mozambique, Tanzania and Zimbabwe and are being followed up for 24 months. Enrolled HHCs undergo 6-monthly symptom screening, physical examinations and chest X-ray (CXR). HHCs with symptoms presumptive of TB and/or a CXR suggestive of TB undergo sputum-based tests, i.e., Xpert MTB/Rif Ultra/culture. At each visit, novel diagnostics, e.g. TAM-TB and Xpert Host Response (Cepheid), are conducted and blood and urine samples stored in a biorepository. The biorepository will be used for future investigations of new diagnostics applying a case-control design. Testing for Mtb infection is done at baseline using interferon-gamma release assays (IGRA; SD Biosensor).

Results An average of 2.4 contacts per household were recruited. The median age was 26.7, 62% were females, 321 (15%) were living with HIV, and 44 (14%) of these were newly diagnosed. One-quarter of the enrolled HHCs were children aged 10–18 years. At baseline, 355 (17%) had TB-related symptoms and 5% CXRs suggestive of TB. The prevalence of pulmonary TB was 0.7% while the prevalence of Mtb infection was 54%. Follow-up of study participants is ongoing.

Conclusion Despite COVID-19 related interruptions, the targeted enrolment size of 2100 HHC was achieved. While a considerable proportion of HHC had Mtb infection at baseline or had symptoms and/or CXR findings suggestive of TB, less than 1% were diagnosed with TB. This is a relatively high HIV prevalence, albeit mostly known and on treatment.