two rural Brazilian communities (n=354) were identified that had >85% amplification success using 25 markers. To determine the ideal marker number, random sets of 5, 10, 15, and 20 markers were used to calculate differentiation between infrapopulations (Di), component populations (Dc) and between each infrapopulation and component population (Dic). As marker number increased, variance markedly decreased between 10-15 markers for all measures. We developed a Dic Assignment Ratio Test that successfully assigned infrapopulations to geographic locations only 6 km apart (98% accuracy). Assignment score variance decreased with 15-20 markers. PCA of Dic values that included a Kenyan population could assign origin 100% correctly, including between the 2 neighboring Brazilian populations. This further validated the ability of the markers and the approach to identify epidemiologically and biologically relevant features. It was difficult to infer a marker's potential usefulness prior to genotyping based on characteristics of the lab strains or any distantly related population. However, using between 10-20 randomly selected markers give results near true values.

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IMPACT OF BIANNUAL COMMUNITY-WIDE AND SCHOOL-BASED TREATMENT ON UROGENITAL SCHISTOSOMIASIS IN NIGER

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This was a five-year cluster-randomized trial that compared the impact of treatment strategies in areas with high and moderate *Schistosoma haematobium* prevalence. Each village was randomly allocated to one of six possible combinations of annual or biannual community-wide treatment (CWT) or school-based treatment (SBT). Data was collected annually among children aged 5-to-8 years in first-year of school, school-aged children 9-to-12-years and 50 adults (aged 20-to-55). In total, data was collected from 167,500 individuals across 225 villages in nine districts within the Niger River valley. Overall, treatment resulted in a decrease in prevalence of infection from baseline (15.7%) to Year 5 (8.85%) across all arms. The proportion of heavily infected was low but reduced from 1.46% to 0.76% over five years. The only significant difference between study arms was seen between annual and biannual SBT in areas with a high starting prevalence. Interestingly, although adults were not targeted for treatment in SBT, a statistically significant decrease in prevalence among adults was seen in moderate prevalence areas receiving biannual SBT (10.7% to 4.8%). Although treatment was successful in reducing the burden of active infection, there was no statistically significant difference between arms with once- and twice-yearly CWT or SBT in areas with low *S. haematobium* endemicity, despite high treatment coverage. There was, however, a significant impact on infection reduction from biannual versus annual treatment in areas of moderate prevalence. These findings are an important consideration for control programs that are considering elimination, as scaling up the frequency of treatment is a commonly proposed strategy in areas of low prevalence. These findings support the idea that preventive chemotherapy alone will not eliminate schistosomiasis. Interestingly, the finding that prevalence decreased among adults in SBT arms suggests that transmission in the community can be reduced, even where only school children are being treated, which could have logistical and cost-saving implications for the national control programmes.

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SCHISTOSOMIASIS AT DELIVERY IS ASSOCIATED WITH A HIGHER RISK OF SMALL-FOR-GESTATIONAL AGE AT BIRTH AND INFANT'S WEIGHT DURING THE FIRST YEAR OF LIFE IN BENIN

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Schistosomiasis represents one of the most prevalent and disabling parasitic infection in sub-Saharan Africa (SSA). While schistosomiasis has been related to anemia, stunting, neurocognitive disorders in infancy, little is known about the effect of schistosomiasis during pregnancy on birth and postnatal outcomes. In animal models, maternal schistosomiasis has been associated with an increasing risk of anemia, preterm birth and low birthweight. This study aims to assess the effect of maternal schistosomiasis on the risk of small-for-gestational age (SGA) and child's weight growth from birth to year one. From 2014 to 2018, in Benin, women were followed from the pre-conception period until delivery (RECIPAL study). A sub-sample of their children was followed from birth to year one (SEPSIS study) with weight measurements at birth and each quarter. Gestational age was accurately determined by ultrasound at the 1st trimester. Maternal schistosomiasis was defined as a urinary detection of *S. haematobium* eggs at delivery. In the child, SGA was defined according to the INTERGROWTH-21st standards and the postnatal growth was assessed using weight variation from birth to year one. A logistic and mixed linear regression models were used to assess the effect of maternal schistosomiasis on child growth at birth and during the first year of life, respectively. A total of 127 mother-child pairs were included. The prevalence of schistosomiasis at delivery was 11.8%. At birth, 20.5% of newborns were SGA. From birth to year one, the mean (standard deviation) child's weight increased from 3056 (397) to 8384 (1158) g. After adjustment for potential maternal and infant confounding factors, maternal schistosomiasis was significantly associated with a higher risk of SGA (adjusted odds ratio=4.8, [1.4; 16.5], p=0.014). From birth to year one, maternal schistosomiasis was significantly associated with a lower child's weight (adjusted β= -548 g [-973; -123], p=0.011). In conclusion, these results highlight the importance of maternal schistosomiasis in SSA and reinforce the need for the preventive strategies before and during pregnancy.

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A THEATRE-BASED APPROACH FOR ASSESSING AND INFLUENCING HIGH-RISK WATER CONTACT BEHAVIORS OF SCHISTOSOMIASIS-ENDEMIC COMMUNITIES IN ETHIOPIA AND TANZANIA

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This study aimed to assess the effectiveness of a theatre-based behaviour change technique to reduce high-risk water contact behaviour in schistosomiasis-endemic communities. The study was carried out in three communities: Kemise in Ethiopia; Kigongo and Mwakalima in Tanzania. Initial baseline data on knowledge, perceptions, and behaviours of the communities used mixed quantitative and qualitative research methods including questionnaires, in-depth interviews and focus group discussions. For each theatre workshop, the cohort included 18-20 community representatives, occupationally exposed people (fishermen, paddy

Agbota G. C., Wieringa Franck, Compos-Ponce M., Fievet Nadine, Accrombessi M., Yovo E., Roucher C., Massougbodji A., Cot Michel, Briand Valérie, Polman K.

Schistosomiasis at delivery is associated with a higher risk of small-for-gestational age at birth and infant's weight during the first year of life in Benin.