PA-104 PREVALENCE AND ASSOCIATED RISK FACTORS OF TWO HUMAN SCHISTOSOMIASIS AMONG SCHOOL CHILDREN IN TWO ENDEMIC COMMUNITIES OF SOUTHERN NIGERIA

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Background Schistosomiasis remains one of the most prevalent neglected tropical diseases, especially in Nigeria which has the greatest number of infected people worldwide. School-aged children are the most vulnerable, as they participate in water contact activities that expose them to free-swimming cercariae released by infected snail species in freshwater; hence most studies target this age group. A cross-sectional study was conducted among 466 participants from two communities in South-west Nigeria to investigate the risk factors associated with high prevalence of the two human schistosome infection.
Methods Urine and stool samples were collected from consenting school children in Ilie and Ore communities of Osun State, Nigeria. Schistosoma haematobium eggs were detected in the urine using the urine filtration technique, while S. mansoni eggs were detected in stool using the Kato-Katz thick smear technique.
Results The overall prevalence of schistosomiasis was 40% (185/466), with 31% and 10% infected with S. haematobium and S. mansoni, respectively. The multiple logistic regression analysis revealed that water contact activities i.e washing and fishing (X2 =7.52; p< 0.06; X2 =19.54, p =0.000) knowledge of schistosomiasis (X2 =12.7; p= 0.00) blood in the urine (X2 =37.8; p< 0.00) were the significant risk factors associated with schistosomiasis in these communities.
Conclusion This study revealed that schistosomiasis is still prevalent in endemic communities of southern Nigeria. Factors predicting schistosomiasis were related to water contact activities (fishing and washing) knowledge of schistosomiasis, previous infection, and blood in the urine. These findings highlight the need for mass drug administration, health education, and community mobilization to significantly reduce the prevalence and morbidity of schistosomiasis in these communities.

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PA-107 EFFICACY STATUS OF ARTEMISININ-BASED COMBINATION TREATMENT OF FALCIPARUM MALARIA IN LAGOS, NIGERIA

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Background Artemisinin resistance is a major limitation against malaria control. Routine monitoring of the efficacy of artemisinin-based combination (ACT) treatment is required to ensure early detection and response to drug resistance. This research evaluated therapeutic response to directly observed treatment with artemether-lumefantrine (AL) in participants infected with uncomplicated falciparum malaria.
Methods The study was conducted in Ijede, a sentinel site in southwestern Nigeria. Microscopy, rapid diagnostic test and 18S ribosomal ribonucleic acid (rRNA) polymerase chain reaction (PCR) methods were used to diagnose Plasmodium falciparum. Primary outcomes were clinical and parasitological cure rates at day 28. Secondary outcomes included patterns of fever and parasite clearance. Parasite genotyping using merozoite surface proteins 1 and 2 markers was performed at baseline and at the time of recurrence of parasitaemia to differentiate between recrudescence and new infections.
Results Of the 79 participants enrolled, 58 completed the follow-up to day 28. Clinical observations and microscopy showed no early treatment failure whereas 18S rRNA PCR analysis identified parasite DNA in 37% (23/62) of participants followed up on day 3. However, this did not correspond to treatment failure in subsequent follow-up days. Based on Kaplan-Meier survival estimate, day 28 cumulative incidence of success of AL treatment was 96.6%.
Conclusion This finding demonstrates sustained in vivo efficacy of AL as first-line treatment of uncomplicated malaria in the study area. Investigations are underway for ex vivo genotyping of resistance markers to validate the efficacy status of ACT in this population.

PA-113 PHARMACOGENOMICS OF DRUG-DRUG INTERACTIONS IN MALARIA-HIV CON-INFECTIONS: EFFECTS ON GENERIC ARTEMETHER-LUMEFANTRINE THERAPY USED IN GHANA FOR MALARIA TREATMENT

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Background Malaria/HIV co-infection (MHC) is a public health challenge which may present with worse health outcomes due to interactions. Coadministration of artemether lumefantrine (ALU) and antiretroviral therapy may have potential drug-drug interactions that can affect the course of treatment for both diseases. Generic ALU medications are used in Ghana for malaria treatment after RDT or microscopy diagnosis. ALU is metabolized by the enzymes CYP2B6, CYP3A4/5, CYP2A6 and UGTs which can be affected by pharmacogenetics. A better understanding of the effects of MHC on ALU drugs could help prompt treatment, and control of malarial parasites among HIV-infected patients. This study evaluated effects of MHC on ALU drugs used in antimalarial treatment and pharmacogenetic influences on their efficacy.
Methods To compare metabolite profiles and treatment outcome in patients on generic ALU for uncomplicated malaria and MHC, this study has recruited about 218 participants. However, we currently have complete preliminary metabolite and genomic data on 52 participants. Blood was taken for