PA-771 AN ECONOMIC EVALUATION OF A TEST-AND-TREAT STRATEGY FOR SCHISTOSOMIASIS CONTROL IN PREGNANT WOMEN AND YOUNG CHILDREN (FREEBILY)

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Background There exists a remarkable knowledge gap on the effectiveness of schistosomiasis control interventions for pregnant women and children below 5 years of age, resulting in a lack of public health policies and initiatives targeted to these vulnerable groups. We address this gap with the freeBILy trial in Madagascar, which evaluates a test-and-treat strategy (POC-CCA testing and PZQ treatment) in pregnant women and their young children against the status quo.

Methods We model the cost-effectiveness of the strategy in comparison to three alternatives: PZQ treatment after a Kato-Katz positive result, presumptive treatment if symptomatic, and preventive chemotherapy. We develop separate models for pregnant women and their young children, which include deterministic and probabilistic sensitivity analyses. Notably, in the model for pregnant women, we employ health-related quality of life (HRQoL) as a metric to represent the health outcomes of the compared strategies. HRQoL was derived from the administration of EQ-5D-3L questionnaire to 500 pregnant women enrolled in two trial training sites at four time points, twice before and twice after giving birth. While this data will not be considered for the estimate of intervention effectiveness, it provides invaluable information for the economic evaluation. HRQoL was also estimated alongside Gabon freeBILy trial among 630 pregnant women and used in the sensitivity analysis.

Results Preliminary results point to a potential increase in HRQoL in the intervention group (POC-CCA testing and PZQ treatment) in comparison to the control group in Madagascar. However, these results will have to be validated against trial effectiveness measures. In addition, the final cost estimates of the compared strategies will determine the cost-effectiveness of the evaluated strategy.

Conclusion The results will inform policy about which strategy to prioritize given resource constraints in Madagascar and similar settings.

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PA-773 PLACENTAL FOETAL-MATERNAL INNATE IMMUNE RESPONSES TO PLACENTAL MALARIA

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Background During malaria in pregnancy (MiP), Plasmodium falciparum-infected erythrocytes sequester in the placenta, causing placental malaria (PM) and poor pregnancy outcomes, including low birthweight, preterm birth, and stillbirth. Mouse data indicate that innate immune response to PM on the placenta's maternal side adversely affects the foetus and in response, the placenta's foetal side mounts an innate counterresponse that improves foetal outcomes. However, this has not been observed in human PM.

Methods We used histological and molecular analyses to characterize the PM status of bio banked placentas and corresponding maternal sera. Molecular tools were used to characterize innate immune responses to human PM in the foetal and maternal sides of the placenta.

Results Histology and molecular assays showed that 50% of women who had no history of MiP and had received malaria chemoprophylaxis, had PM. Among women with MiP history, the PM rate was 70%. RT-qPCR revealed that foetal sides of PM-negative samples had lower levels of Toll-like receptor (TLR)- 4 and 9 when compared with maternal sides of the same placentas. However, in PM-positive placentas, their levels were higher in foetal sides than maternal sides of the same placentas. Moreover, TLR4 was significantly upregulated in maternal sides of PM-positive placentas versus maternal sides of PM-negative placentas. Intriguingly, TLR4 was significantly upregulated in foetal sides of PM-positive placentas versus foetal sides of PM-free placentas. Immunohistochemical analysis revealed that when compared with PM-negative tissue, PM-positive samples expressed markedly higher levels of 8-hydroxy-2'-deoxyguanosine, a marker of oxidative DNA damage. RT-qPCR showed that this was accompanied by the upregulation of p21, a marker of DNA damage repair.

Conclusion Our data indicate that human PM drives differential innate immune response in foetal vs maternal sides of the placenta, and triggers placental oxidative DNA damage. These observations may have implications for the diagnosis and management of PM.

PA-777 ESTABLISHING AND NAVIGATING COMMUNITY ENGAGEMENT DURING THE COVID-19 PANDEMIC: LESSONS LEARNED FROM ZAMBIA

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Background In Zambia, from March 2019, strict adherence to public health guidelines during implementation of essential or COVID-19 related research studies inadvertently impacted the conduct of community engagement (CE). We share our experience of establishing and navigating CE in a TB research study pivoted to include COVID-19 in Zambia.

Methods Different approaches were adapted to solicit CE for different study phases. Phone-based individual conversations (n=6) with community representatives and district health officials, and phone-based group discussions (n=4) with community members were held to obtain initial COVID-19 community experiences and informed protocol development. In addition, low-risk face-to-face meetings (n=8) were held with community members, following COVID-19 guidelines, to deepen understanding of the community experiences. Prior to study commencement, meetings (n=4) with community