Research Laboratory in Sierra Leone. The blood samples collected were assessed using the Walter Reed Army Institute for Research(WRAIR) multiplex malaria PCR kit packaged by BioGX, Inc. (Alabama, USA) for detecting and speciation of malaria from human blood. Thin and thick slides were done for each sample and the images recorded by a digital scope.
Results Results show that, out of 163 samples run by multiplex PCR for malaria, 81 (49.7%) were positive for *P. falciparum*, while 82 (50.3%) were positive for *Plasmodium vivax*.
Conclusion The presence of *P. vivax* in the disease ecology without any significant difference (p>0.05) with *P. falciparum* poses problems for clinical outcomes of febrile illnesses. Pan-malaria diagnostics in combination with *P. falciparum* could avert under-diagnosis of malaria.

PO 8585 HIV, HBV AND HCV PREVALENCE, CO-INFECTIONS, RISK FACTORS AND AWARENESS AMONG STUDENTS IN A NIGERIAN UNIVERSITY

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Background HIV, Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV) are life threatening viral infections. Co-infections are possible since they share routes of transmission through exchange of blood/body fluids. Youths are the most vulnerable to HIV infection due to unsafe practices. There is no free counselling and testing for HBV/HCV in Nigeria, hence many may not be aware of their HBV/HCV status. This study assessed prevalence, knowledge and risk factors of transmission among University students in order to provide preventive intervention.
Methods Previously counselled/consenting university students (total=903, M=502, F=428; age range 16–40 years; mean age 19 years) were enrolled. Relevant information was collected through questionnaire. About 5 ml of blood was collected from each student and serum recovered was analysed for detectable HIV antigens/antibodies using specific ELISA kit. HIV antigen/antibody-positives were analysed for detectable hepatitis B surface antigen and anti-HCV. The HIV and HBV-positives were compared in terms of gender, age group, and risk factors by use of chi-square and Fischer exact tests, with two-tailed significance using SPSS version 20.0.1 for Windows.
Result Of the 930 students examined, 630 (67.7%) were sexually active and 104 (16.5%) had multiple sex partners. Knowledge of HIV, HBV and HCV status was 55%, 36.3% and 4.2% respectively. Overall, 13 (1.40%) students had detectable HIV antigens and/or antibodies, 5 (38.5%) of whom were HBV-positive, none had HCV infection. All HBV-positive students were ignorant of their HBV status. HIV and HBV-positive students fall within age range 15–24 years with higher HIV/HBV prevalence in females than males. Statistical significance exists between HIV, HBV prevalence and a) gender, b) number of sex partners, and c) sharing sharps with people of unknown HIV/HBV status (p=0.005; 0.002 and 0.005, respectively).
Conclusion Knowledge about HBV and HCV is generally low among the students. Awareness campaigns specifically tailored towards educating young adults on HIV, HBV and HCV prevention/control should be encouraged.

PO 8590 COMPARATIVE ANALYSIS OF IGG RESPONSES TO RECOMBINANT Qβ PHAGE DISPLAYED MSP3 AND UBO5 IN DUAL HIV/MALARIA-CO-INFECTED ADULTS

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Background Immunoglobulin G (IgG)-specific responses against *Plasmodium falciparum* merozoite antigens such as the merozoite surface protein 3 (MSP3) and UBO5 are known to play critical roles in parasitaemia control and protection from symptomatic illness. However, when there is intense perennial malaria transmission coupled with concurrent infection with the human immunodeficiency virus type 1 (HIV), knowledge of IgG antibody response profiles is limited.

In this study we assessed the impact of dual HIV/malaria infections on IgG subclass responses to MSP3 (QβMSP3) and UBO5 (QβUB05) in individuals living in two areas of Cameroon differing in malaria transmission intensity.
Methods IgG and IgG subclass responses specific to either MSP3 or UBO5 were determined in plasma from study participant by ELISA. To improve reactivity with their respective antibodies the antigens were displayed upon the surface of the RNA coliphage Qβ.
Results We observed differences in antigen-specific IgG and IgG subclass responses which were dependent upon the antigen type, malaria transmission intensity, HIV infection, malaria infection and dual HIV/malaria infections. Individuals living in areas with high malaria transmission, had irrespective of HIV or malaria status significantly higher IgG responses to both antigens (p=0.0001 for QβMSP3, p=0.0001 for QβUB05) than their counterpart from areas with low transmission. When dual HIV/malaria infection is considered, significantly higher QβMSP3 specific IgG1 (p=0.0001) and IgG3 (p=0.04) responses in double-negative individuals was associated with protection against malaria in areas with low transmission. Superior QβUBO5 specific IgG1 responses (p=0.0001) in double-negative individuals were associated with protection in areas with high transmission in contrast to significantly higher IgG3 responses to QβUBO5 (p=0.0001) which were more relevant to protection in areas with low malaria transmission in the same population.
Conclusion Thus, understanding immune responses to QβUBO5 and QβMSP3 could facilitate the development of immunotherapeutic strategies suitable for areas differing in malaria transmission intensity.