polio, hepatitis A, HSV 1 and 2, and CMV. Transfer of IgG1 for pertussis, RSV, Hib, EBV, measles, mumps, rubella, adenovirus, and tetanus toxoid was not affected by maternal HIV serostatus. Compared to HIV-uninfected women, WLWH transferred significantly more FCγR3A-binding antibodies for measles, but significantly less for CMV. PLS-DA revealed that IgG1 titer, FcγR3A, and FcγR2A binding separated HEU antibody profiles in an antigen-specific manner. Transplacental antibody transfer differs by HIV serostatus and may contribute to HEU immune activation and infection susceptibility. Differences observed by maternal HIV serostatus in the quality of maternal humoral immune profiles suggest these alterations may be related to placental changes among WLWH, even in the presence of effective antiretroviral therapy. Further studies may reveal specific mechanisms leading to altered immunity and novel opportunities to design specific therapeutics and vaccines to selectively enhance immunity in HEU children.

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HUMAN MILK OLIGOSACCHARIDES AND GROWTH IN HIV EXPOSED UNINFECTED INFANTS IN KENYA

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Human milk oligosaccharides (HMOs) are the third largest solid component in breast milk and serve as prebiotics, supporting growth of commensal gut bacteria and influencing the immune system. Recent studies implicate perturbations in the infant gut microbiome as a critical mechanism for increased risk of growth faltering and infectious morbidity in HIV-exposed uninfected (HEU) infants. We investigated the association between HMO composition and growth in HEU infants during the first year of life. Total and specific HMO concentrations were quantified from breast milk samples collected at one month postpartum from a random subset of 124 HIV-infected women enrolled in a pre-antiretroviral therapy cohort in Nairobi, Kenya. Linear mixed effects models were used to determine the influence of specific HMOs on the rate of change in monthly weight-for-age (WAZ), length-for-age (LAZ), weight-for-length (WLZ) z-scores. At 32 weeks' gestation, median maternal age was 24 years (Interquartile range [IQR]=22, 27) and median CD4 count was 471 cells/μL (IQR=316, 664). Of the 124 HEU infants, median birth weight was 3.1 kg (IQR=2.9, 3.4) and median breastfeeding duration was 11.8 months (IQR=7.5, 12.0). Weight remained stable from birth to age 12 months (-0.1 WAZ/mo, 95% confidence interval [CI]= -0.3, 0.01, p=0.32; -0.1 WLZ/mo, CI= -0.03, 0.01, p=0.24), while length gradually declined over time (-0.04 LAZ/mo, CI= -0.06, -0.02, p<0.001). Higher concentrations of sialylated HMOs, 6-sialyllactose and sialyllacto-*N*-tetraose c, were associated with a faster rate of increase in WLZ (0.06 WLZ/mo, CI=0.01, 0.10, p=0.02; and 0.07 WLZ/mo, CI=0.22, 0.11, p=0.004, respectively). There was a trend toward an association between higher lacto-*N*-fucopentaose III concentration and faster declines in weight and length growth (-0.04 LAZ/mo, CI= -0.9, 0.004, p=0.08; -.05 WAZ/mo, CI= -0.10, 0.01, p=0.11). These data suggest a relationship between specific oligosaccharides and postnatal growth in breastfed HEU infants. Understanding the mechanisms by which HMOs and gut microbiota interact is critical to inform interventions to optimize growth in HEU children.

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SOCIAL FACTORS ASSOCIATED WITH VIROLOGIC SUPPRESSION IN CHILDREN AND ADOLESCENTS LIVING WITH HIV INITIATED ON ANTIRETROVIRAL THERAPY IN LILONGWE, MALAWI

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Across a wide range of settings and with many diseases, there are strong links between health outcomes and the circumstances in which people live, known as the social determinants of health (SDH). Especially for children and adolescents living with HIV (CALHIV), there is very little evidence about the impact of SDH on successful virologic suppression upon initiation of antiretroviral therapy (ART). Understanding this dynamic in low resource countries like Malawi is key to achieving the third of the UNAIDS' 90-90-90 goals. This was a retrospective cohort study of subjects less than 20 years old initiating ART at the Baylor College of Medicine Abbott Fund Children's Center of Excellence in Lilongwe, Malawi between January 2016 and January 2018. Clinical and social variables were abstracted from the site's electronic medical record and these were compared to virologic suppression. Virologic suppression was defined as documented viral load less than 1000 copies/mL within 8 months of ART initiation. Over this period, 285 CALHIV were initiated on ART at this site with a median age of 7.5 years and 48% female. Within eight months of ART initiation, 93 subjects (33%) had documented virologic suppression. Social factors that were associated with virologic suppression were living in a home with electricity, living in a home with a refrigerator, and using a personal vehicle to travel to clinic visits. However, with multiple logistic regression, the only social variable associated with virologic suppression was using a personal vehicle to travel to clinic visits (adjusted odds ratio 3.40, 95% confidence interval 1.35-8.55). Initial WHO stage of III or IV was also independently associated with virologic suppression (aOR 0.321, 95% CI 0.128-0.807). This initial analysis shows one social factor, mode of transport to clinic, associated with virologic suppression for this cohort of CALHIV. Ongoing research to further identify key social factors associated with the third of the UNAIDS' 90-90-90 goals will be important for developing interventions to improve rates of virologic suppression for CALHIV.

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VIROLOGICAL SUPPRESSION AMONG HIV INFECTED ADOLESCENTS & YOUTHS RECEIVING ART IN THE NATIONAL TEACHING AND REFERRAL HOSPITAL IN KENYA

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Virological suppression among HIV infected adolescents and youths receiving ART in the National teaching and referral hospital in Kenya. HIV virological suppression is poor among the adolescents and youths which may be related to several factors including adherence to antiretroviral therapy. This study aimed to determine the HIV virological response and the associated risk factors among adolescents and youths on ART. This was a cross-sectional study among adolescents and youths aged 10 to 24 years in Kenyatta National Hospital who were on ART for at least six months. Patient characteristics were captured in a questionnaire and viral load was abstracted from electronic medical records. Viral suppression was presented as a proportion based on viral load less than 1000 copies per milliliter of plasma. Viral suppression rate was associated with categorical independent factors using chi square test and means were compared using independent T –test. The mean age was 17 years (SD 4.3 years) and 55.6% were females. The median CD4 count was 573 cells per micro liter of blood (IQR: 344- 1780). A total of 227 (74.2%) HIV infected adolescents and youths were virologically suppressed (viral load less than 1000 copies/ml blood). As compared to children 10-14 years old who had 83.2% suppression rate, adolescents 15-19 years had poorer suppression