Implementation of a HIV/HBV screening strategy at delivery to improve rates of early infant diagnosis in HIV-exposed infants and immunization in HBV-exposed newborns in the DEPISTNEO project, Abidjan

Madeleine Amorissani-Folquet[1,2], Sophie Desmonde[3], Maïka Bangali[1], Séverin Lenaud[1], Sophie Karcher[4], Marie-Jeanne Lohoues-Kouacou[5], Clarisse Amani-Bosse[1],Jeanne Eliam-Kouakou[1],Andre Inwoley[6], Irma Ahoba[7] and Valériane Leroy[3] for the DEPISTNEO Working Group

[1]PACCI programme, Abidjan, Cote d'Ivoire
[2]Department of Pediatrics, University Hospital of Cocody, Abidjan, Cote d'Ivoire
[3]Inserm, UMR1027, University of Toulouse 3, Toulouse, France
[4]MEREVA, Inserm UMR 1219, University of Bordeaux, Bordeaux, France
[5]Department of Hepatology, University Hospital of Cocody, Abidjan, Cote d'Ivoire
[6]Center for Diagnostics and Research on HIV and other infectious diseases (CeDReS), Abidjan, Cote d'Ivoire
[7]National AIDS&STD Control Program, Abidjan, Cote d'Ivoire

Introduction: We implemented a routine screening strategy combining rapid diagnostic testing for maternal HIV and HBV exposure in newborns linked to a computer-based health information system (HIS) that tracks HIV/HBV-exposed mother-infant pairs through the continuum of postnatal care in Abidjan, Côte d'Ivoire.

Methods All mother-infant pairs who gave maternal consent if five participating maternity clinics were included. At delivery, all mothers are HIV-tested; those infected unaware of their status are offered a second opportunity to enroll in care and PMTCT. A rapid HBV-testing is offered; HBsAg-exposed children receive VHB immunization at birth. HIV and/or HBV-exposed infants are tracked through the continuum of care. Each step of the early infant diagnosis (EID) and immunization cascades is recorded in the HIS. Weekly reports alert social workers of missed visits, to contact families to re-schedule. Children are followed-up until definite HIV-diagnosis after breastfeeding cessation.

Results: Between 08/2016-07/2017, 18836 women gave birth. Acceptability of maternal HBV testing was 94%: HBV prevalence was 6.4% (95%Confidence Interval (95%CI): 5.9-6.8). Among the 739 HBV-exposed children, 708 (96%) were immunized at birth. Maternal HIV testing coverage was 99%: maternal HIV prevalence was 3.9% (95%CI: 3.6-4.3). Of those HIV-infected, 74% were already on combined ART. Among the 477 HIV-exposed infants, 433 reached follow-up >6 weeks at study date: 48% (95%CI: 43-52) had a DBS for virological testing. After HIS alerts, 6-week virological testing coverage reached 52% (95%CI: 47-57). Among these, 39% of results were returned to clinic after a median time of 48 days (interquartile interval (IQR): 36-72), of which 94% were subsequently returned to families after a median time of 2 days (IQR: 0-11). Among the 87 children with available PCR-results, 4 were positive:. To date, three children have initiated ART (median time since result-return: 21 days). Among those who did not return to clinic for 6-week EID, 13 (6.3%) died before 6 weeks of age, 6 (3%) refused to continue the study, 2 (1%) were transferred out and 22 (11%) had provided fake contact details and were untraceable.

Conclusion Maternal HIV/HBV rapid diagnostic testing at delivery is feasible and acceptable. Birth HBV immunization coverage was high. EID uptake was 48% and was improved by the HIS, reaching 52% after patient call-back. However, result turn-around time remains long and efforts remain.

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