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1-20-2021

## Retention and predictors of attrition among children living with HIV on antiretroviral therapy (ART) in Côte d'Ivoire between 2012 and 2016

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### Recommended Citation

Traore-Toure, F., Gina D. Etheredge, Gulzar H. Shah, C. Brennan. 2021. "Retention and predictors of attrition among children living with HIV on antiretroviral therapy (ART) in Côte d'Ivoire between 2012 and 2016." *International Journal of Infectious Diseases*, 101 (S1): 293: Elsevier. doi: 10.1016/j.ijid.2020.09.765  
source: <https://www.sciencedirect.com/science/article/pii/S1201971220314818?via%3Dihub>  
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**Conclusion:** Despite advances in antiretroviral therapy, which has significantly improved virological suppression, HAND continues to remain a significant complication among PLHIV.

<https://doi.org/10.1016/j.ijid.2020.09.764>

0702

### Retention and predictors of attrition among children living with HIV on antiretroviral therapy (ART) in Côte d'Ivoire between 2012 and 2016



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**Background:** In Côte d'Ivoire a retrospective national-level cohort study conducted in 2009 indicated that 77%, 72% and 75% of children living with HIV (CLHIV) remained in care at 12, 36, and 48 months after starting ART, respectively. The CDC-sponsored Improving HIV Surveillance and Program Evaluation in Côte d'Ivoire project assessed retention progress since that study.

**Methods and materials:** A retrospective review of medical records was conducted using 2-stage cluster sampling. HIV care and treatment centers (CTC) were sampled based on patient caseload, then records of patients under 15 years of age who initiated ART between 2012–2016 were randomly selected. Time-to-event analysis was performed to estimate the cumulative attrition rates per total number of person-years (PYs) of observation. Cox proportional hazard regressions were conducted to identify factors associated with attrition.

**Results:** 1198 patient records from 33 CTC were reviewed. At time of ART initiation, CLHIVs' mean age was 5.8 years, 609 (51%) were male, median CD4 count was 529 cells/ $\mu$ L (interquartile range: 270–910), and 210 (21%) were severely undernourished. Retention was 91%, 84%, 74%, 72%, and 70% at 12, 24, 36, 48 and 60 months after ART initiation, respectively. 309 attrition events occurred over 3,169 PYs of follow-up, with 266 lost to follow-up (LTFU), 29 transfers and 14 deaths. Multivariate analyses showed determinants for LTFU included attending a CTC with a mixed (public-private) status [adjusted hazard ratio (aHR) 6.05, 95% confidence interval (CI): 4.23–8.65], a CTC with no on-site laboratory (aHR 4.01, 95% CI: 1.70–9.46), and a CTC without an electronic medical record system (aHR 2.22, 95% CI: 1.59–3.12). Age, clinical and immunological status at ART initiation, and parent's HIV status were not related to attrition.

**Conclusion:** Attrition rates were high, with no substantial improvement since 2009 for time periods longer than 12 months since ART initiation. Retention improvements in Cote d'Ivoire would require a focus on scaling up innovative service delivery models such as decentralization of services to the community, coordination with local or regional labs for facilities without an on-site laboratory, and rigorous tracking systems for patients in care.

<https://doi.org/10.1016/j.ijid.2020.09.765>

0704

### TB/HIV coinfection and patient outcomes: Evidence from 241 clinics in the Democratic Republic of Congo



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**Background:** To provide efficient, equitable, patient-centered, and evidence-based services to people living with HIV/AIDS (PLWH), it is critical for the intervention programs to understand the nature of barriers to effective treatment and additional risks faced by PLWH with tuberculosis (TB) coinfection. This study analyzes two aspects of TB coinfection in PLWH: (a) variation in TB/HIV coinfection by demographic and clinical characteristics of patients; and (b) risks of negative outcomes such as death, loss to follow up, and higher viral load among PLWH with TB coinfection compared to those without such coinfection.

**Methods and materials:** This quantitative study used data on 49,460 PLWH on ART from 241 HIV/AIDS clinics in two provinces of Democratic Republic of Congo, Haut-Katanga and Kinshasa. Chi-square and logistic regression analyses were performed. Three separate logistic regression analyses were performed to estimate the impact of TB status on three dichotomous dependent variables: death, LTFU (vs. in care or transferred out), and viral load above 1,000 copies per ml of blood, after controlling for other variables.

**Results:** Significantly higher proportions of patients with TB/HIV coinfection were males (4.5% vs. 3.3%); new patients rather than transferred-in (3.7% vs. 1.6%) resided in the Kinshasa province rather than Haut-Katanga (4.0% vs. 2.7%) and were in an urban health zone (3.9%) and semi-rural (3.1%) rather than rural (1.2%) health zone. The logistic regression models showed that after controlling for other demographic and clinical variables, TB/HIV coinfection raised the risk of death (AOR, 2.26; CI, 1.94–2.64) and loss to follow up (AOR, 2.06; CI, 1.82 to B/HIV coinfection lowered the odds of viral load suppression (VLS) below 1,000 copies per ml of blood (AOR, 0.58; CI, 0.46–0.74).

**Conclusion:** TB/HIV coinfection raises the risk of negative outcomes such as death, loss to follow up, and inability to have viral load suppressed below 1,000 copies per ml. HIV clinics in DRC and other African countries may consider these findings when customizing their interventions to improve HIV care and reduce disparities in PLWH.

<https://doi.org/10.1016/j.ijid.2020.09.767>