**Supplemental Document**

**Extended Methods**

**Study design**

This is a retrospective analysis of data collected routinely to monitor HIV care in two HIV care and treatment clinics in Kinshasa, DRC.

**Settings and clinical procedures**

In February 2012, the DRC adopted the WHO guidelines on IPT and decided to pilot test its implementation in two large HIV clinics in Kinshasa, the capital city. The clinics received technical assistance from The University of North Carolina at Chapel Hill and Kinshasa School of Public Health to implement comprehensive HIV care and treatment (UNC-DRC program). The patient population in those two clinics included mainly HIV-infected women and children and their HIV-infected family members.

HIV-infected patients enrolled in those two clinics were seen every month initially following enrollment and quarterly after they become stable. Results, as well as the recommended action depending on the screening results, were documented in the patients’ files. Adherence to cotrimoxazole, IPT, and ART for those receiving them were also assessed at each visit, and individuals were recorded as adherent or not adherent based on clinician assessment and pill count. Each time a treatment was stopped, the stop date as well as reason for stopping were also recorded in the patient’s file. Patients were given a month’s worth of treatment plus five days buffer. When patients failed to return to the clinic after five days following their scheduled visit, they were contacted by phone, and if they could not be reached or failed to return to the clinic after the phone contact, home visits were performed to verify their whereabouts. If after three months they had not returned to the clinic, they were classified as lost to follow-up (LTFU). At the end of the clinic visit, data recorded in the patient files were captured in an electronic database by experienced data clerks

**Study population**

All patients who were started on IPT in the two clinics between September 1, 2012 and June 15, 2013 were eligible for this analysis.

**Variables and definitions**

The main outcome in this analysis was IPT completion. All patients who were recorded to have stopped taking IPT with the reason for stopping recorded as “treatment completion” were classified as having completed their treatment. If they had been on IPT for at least six months but were not recorded as “treatment completion,” they were classified as not completed. Patient in whom IPT was stopped before six months were all classified as not completed, regardless of the reason for stopping.

Other variables considered in this analysis were reasons for IPT interruption, age and ART status at IPT initiation, sex, and time since enrollment into care at the clinic.

**Statistical analysis**

The proportion of patients who completed their IPT was calculated. Associations between IPT completion and with baseline characteristics were assessed using the Chi Square test for categorical variables and the Wilcoxon Rank Sum test for continuous variables. All tests were performed at a 0.05 significance level. The routine data collection was approved by the University of North Carolina at Chapel Hill Institutional Review Board and the Kinshasa School of Public Health Ethical Committee.

**Extended Results**

Overall, between September 1, 2012 and June 15, 2013, 3053 PLWH receiving care in the two clinics had at least one clinic visit. Of those, 2366 were not symptomatic, and 2078 (87.8%) were initiated on IPT. This included 546 children (26.3%) and 1532 adults (73.7%) (Figure 1).

Of the 546 children initiated on IPT, 274 (50.2%) were male. At time of IPT initiation, the median age was 8.0 years [interquartile range (IQR): 4.6, 11.2] and children had been in care for a median of 39.3 months (IQR: 4.6, 11.2). Over 90% (n=494) were on ART (Table 1).

Of the 1532 adults (73.7%) initiated on IPT, 1250 (81.6%) were female. At time of IPT initiation, the median age was 35.1 (IQR: 29.7, 39.8) years. Those patients had been in care for median of 30.5 months (IQR: 15.8, 50.1) and 1218 (79.5%) were on ART at time of IPT initiation (Table 1).

**IPT completion and reasons for not completing the six-month regimen**

Of the 546 children initiated on IPT, 470 (86.1%) had an IPT outcome (termination date and reason recorded: n=431) or had been on treatment for more than six months (n=39) (Table 1). Overall, 408 (86.8%) completed their treatment. In 10 (2.1%), IPT was stopped because of toxicity. Overall lack of adherence including self-stopping, LTFU, and poor adherence was the recorded reason for stopping IPT in 11 children (2.3%) (Table 1). One child died after IPT initiation and another was diagnosed with active TB before the end of six months of IPT. In 39 children (8.3%) who were on IPT for six months or more, there was neither termination date nor information in the database on IPT outcome.

In 15 (1.2%), IPT was stopped because of toxicity. Overall lack of adherence including self-stopping, LTFU, and poor adherence was the recorded reason for stopping IPT in 33 patients (2.6%) (Table 1). Eight patients died after IPT initiation and three were diagnosed with active TB before the end of six months of IPT. In 92 patients (7.2%) who were on IPT for six months or more without a termination date and reason recorded, there was no information in the database on the IPT outcome.

**Factors associated with IPT completion**

Among children, in bivariate as well as in multivariate analysis, none of the baseline characteristics considered were statistically associated with IPT completion (Table 2). However, children on ART at IPT initiation were more likely to complete IPT. The adjusted OR for IPT completion comparing children on ART at IPT initiation to those not on ART was 1.70 (95% CI: 0.75, 3.85).

Among adults, the proportion of patients who completed IPT was higher among those on ART at IPT initiation compared to those who were not (89.2% vs 83.3%, *p*=0.01). Participants who completed IPT were older than those who did not (median age at IPT initiation: 35.2 years vs. 34.6 years; *p*=0.09). The adjusted OR for IPT completion comparing patients on ART at IPT initiation to those not on ART was 1.54 (95% CI: 1.02, 2.32). Older adults also had higher odds of completing their IPT: adjusted OR, 1.02 (95% CI: 1.00, 1.04) for each year increase in age (Table 2).

Abbreviations: IPT = Isoniazid preventive therapy.

Figure 1. Participant tree

**Table 2.** Predictors of IPT completion among 470 children and 1280 adults infected with HIV who initiated IPT between September 1, 2012 and June 15, 2013 in two clinics in Kinshasa, DRC and had taking it for >6 months or had it stopped

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **IPT completion** | |  |  | **Odds ratios (95% CI)** | |
|  | **No (%)** | **Yes (%)** | ***p*-value** |  | **Crude** | **Adjusted a** |
|  | **Children: 1-15 years** | | | | | |
| Male | 29 (12.1) | 210 (87.9) |  |  | 1 | 1 |
| Female | 33 (14.3) | 198 (86.6) | 0.49 |  | 0.83 (0.49, 1.42) | 0.83 (0.48, 1.43) |
| **On ART** |  |  |  |  |  |  |
| Yes | 53 (12.4) | 376 (87.6) | 0.08 |  | 2.00 (0.90, 4.41) | 1.70 (0.75, 3.85) |
| No | 9 (21.9) | 32 (78.1) |  |  | 1 | 1 |
| **Time in care** (months):Median (IQR)b | 31.0 (16.2, 52.8) | 39.5 (20.3, 64.0) | 0.17 |  | 1.01 (1.00, 1.02) | 1.01 (1.00, 1.02) |
| **Age** (years):Median (IQR) c | 8.4 (4.1, 11.2) | 7.5 (4.6, 11.1) | 0.13 |  | 0.99 (0.93, 1.07) | 0.96 (0.89, 1.04) |
|  | **Adults: > 15 years** | | | | | |
| Male | 25 (10.3) | 217 (89.7) |  |  | 1 | 1 |
| Female | 126 (12.1) | 912 (87.9) | 0.61 |  | 0.83 (0.53, 1.31) | 0.97 (0.61, 1.54) |
| **On ART** |  |  |  |  |  |  |
| Yes | 114 (10.8) | 944 (89.2) | 0.01 |  | 1.66 (1.11, 2.48) | 1.54 (1.02, 2.32) |
| No | 37 (16.7) | 185 (83.3) |  |  | 1 | 1 |
| **Time in care** (months):Median (IQR)b | 25.9 (12.1, 48.7) | 31.0 (16.5, 50.2) | 0.26 |  | 1.01 (1.00, 1.01) | 1.00 (1.00, 1.01) |
| **Age** (years):Median (IQR) c | 34.6 (27.0, 39.2) | 35.2 (29.8, 40.0) | 0.09 |  | 1.02 (1.01, 1.04) | 1.02 (1.00, 1.04) |

IPT = isoniazid preventive therapy; DRC = Democratic Republic of Congo; ART = antiretroviral therapy; IQR = interquartile range. a From a multivariate model including sex, on ART, age (in years) and time in care (in month). b Odds ratios are for every one month increase. c Odds ratios are for every one year increase.