Oral Abstract Presentations 2

#7 Rapid Antiretroviral Therapy Initiation and the Risk of Mortality and Loss to Follow-Up in Children with HIV

Peter James Elyanu, Uganda

Rapid antiretroviral therapy Initiation and the risk of mortality and loss to follow-up in children with HIV in East and Southern Africa: A retrospective cohort study

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Background

- In 2017, WHO recommended antiretroviral therapy (ART) initiation within 7 days of diagnosis and upon clinical assessment (rapid initiation) in adults and children.

- Recommendation was based on retention, viral suppression and survival benefits reported in adults; however, data on these benefits in children are scarce.

- We examined the association between rapid ART initiation in children and 24-month all-cause mortality or loss to follow-up (LTFU).

Methods

Study design & Population

- Retrospective cohort study
- Children with HIV who initiated ART at 7 BIPAI COE's

Inclusion criteria

- Children with HIV aged <15 yrs
- Initiated ART with at least 3 ARV's
- Initiated ART between 2014-2017

Exclusion criteria

ART experienced at entry into care.

Definitions

Exposure:

Rapid ART initiation
- Same-day initiation
- 2-7 days

vs

Delayed ART initiation
8-90 days (ref. group)

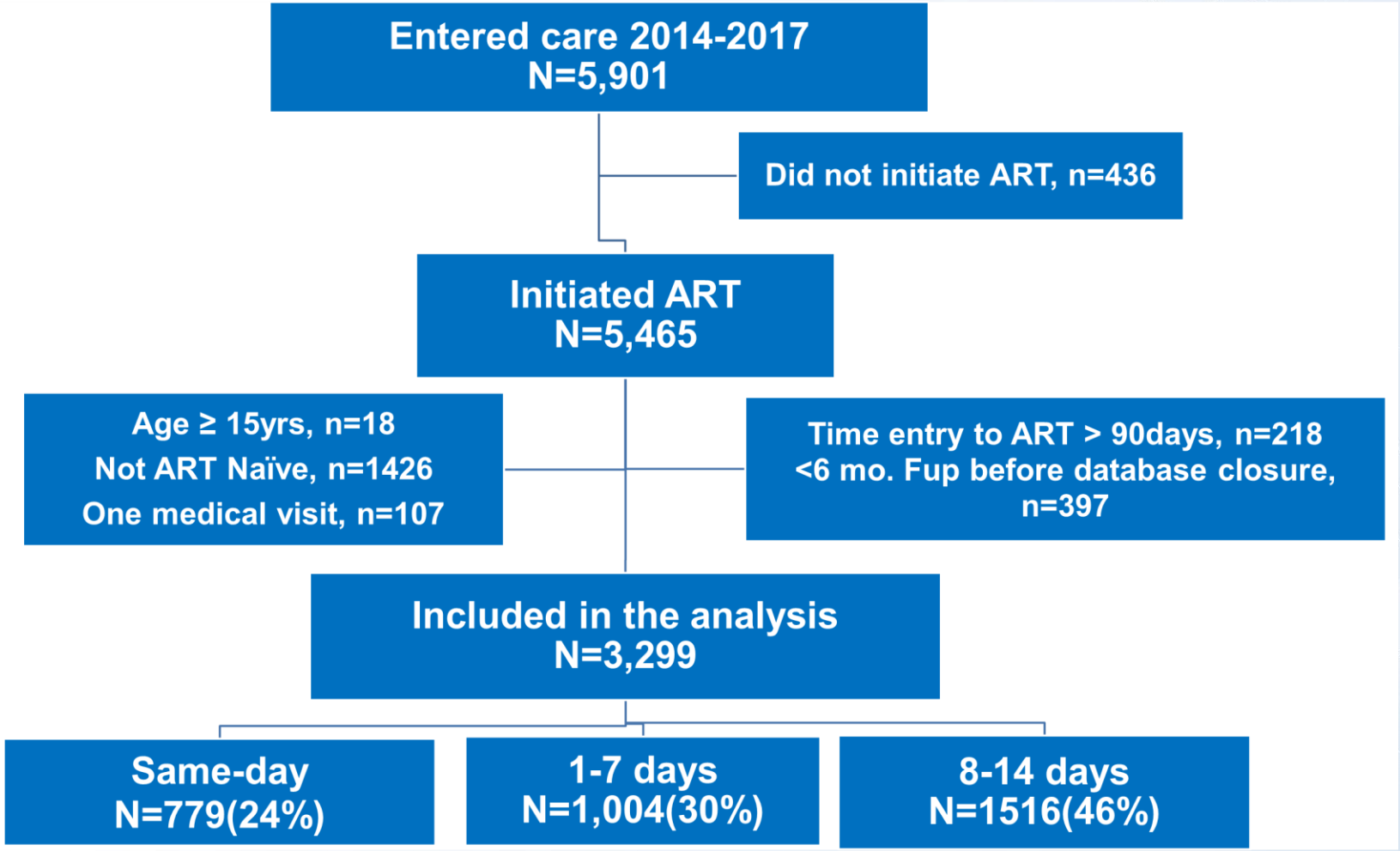
Outcomes: All-cause mortality and LTFU

- LTFU- Being 90 days late for the last clinic appointment

Statistical analyses

- Follow-up time accrued from the ART initiation date to the earliest of LTFU, death, transfer out, 24 months follow-up or database closure date.
- We considered death and LTFU as competing events
- Assessed the association between rapid ART initiation, and mortality or LTFU using sub-distribution hazard regression for competing risks, adjusting for known risk factors of mortality and LTFU.
- Imputed missing data using Multiple Imputation by Chained equations

Results



Demographics

- 50% girls;
- 40% aged <2 years

- 57,153 person-months follow-up,
  - 254 (7.7%) died,
  - 306 (9.3%) LTFU
  - 315 (9.6%) transferred care
  - 2424 (73.5%) remained in care.

Results

Table 1: Unadjusted and Adjusted all-cause mortality and loss to follow-up sub-distributional hazard ratios for the first two years of antiretroviral therapy, by the timing of ART.

Timing of ART	Events (n/N)	CIF (%)	95%CI	Unadjusted		Adjusted§	
				sHR	95%CI	sHR	95% CI
Mortality							
8-90 days	110/1516	7.85	6.50, 9.35	1		1	
2-7 days	79/1004	8.32	6.67, 10.20	1.09	0.81, 1.45	1.05	0.77, 1.43
same-day	65/779	9.91	7.67, 12.49	1.21	0.89, 1.65	1.10	0.79, 1.54
Loss to follow-up							
8-90 days	88/1516	6.83	5.52, 8.31	1		1	
2-7 days	117/1004	13.29	11.12, 15.66	**2.05**	**1.56, 2.71**	**1.83**	**1.38, 2.43**
same-day	101/779	16.32	13.43, 19.47	**2.60**	**1.95, 3.45**	**1.86**	**1.39, 2.49**

§ Adjusted for age, CD4, WHO clinical stage, Haemoglobin level, period of ART initiation and country income level ; CIF- cumulative incidence function

Discussion and conclusion

- **Rapid ART initiation in children is associated with an increased risk of LTFU but not mortality.**

- **Reasons why children who initiated ART within 7- days drop out of care are not well understood; however, a plausible reasons**
  - **Caregivers are not ready but accepted to start because it was offered or because they felt pressured by providers to start, and they dropped-off after starting.**
  - **Lack of readiness to start and feeling pressured by providers to start cART on the same day has been reported as a reason for dropping off from care among adults**

Limitation

1. Children who are LTFU may have died and were misclassified as LTFU. Our findings may, therefore, underestimate mortality. However, we are not certain if this bias would be differential or non-differential.

2. Our analysis of LTFU did not control for structural and psychosocial determinants of loss to follow-up like the distance travelled to the clinic, and hence there is potential for residual confounding

Our data suggest rapid ART initiation in children is feasible, but loss to follow-up should be addressed.