# Antiretroviral treatment failure in a prospective cohort of Persons Living with HIV in the Philippines

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### BACKGROUND

Widespread access to antiretrovirals has resulted in improved survival among PLHIV in resource-limited settings. In a previous study, ART failure in the Philippines after one year was found to be 10.3%. However, this was done as a cross-sectional study and did not capture dropouts or preexisting drug resistance (PDR). Treatment failure, taking into account PDR, dropouts, and long-term viral suppression has not been studied. As part of a transmitted drug resistance (TDR) study, we prospectively followed patients and documented long-term viral suppression.

#### METHODS

We enrolled 227 treatment-naïve PLHIV without TDR on Sanger-based sequencing and measured viral load (VL) every 6 months. VL >1000 copies/mL after initiation of treatment was considered treatment failure. An intention to treat analysis counting loss to follow-up as treatment failure was performed along with secondary analysis by subtype.

## RESULTS

Treatment failure at different time points are shown in Table 1. Of the 227 patients, 177 were subtype CRF01\_AE, 30 were B, 14 were CRF01 AE/B recombinants, 2 were subtype CRF02 AG, 2 were CRF01 AE/B/F recombinants and one was an A1/D recombinant. Median VL was 295,000 copies/mL at baseline (range: 40 - 658,000 copies/mL). Seventeen PLHIV developed treatment failure over an observation time of up to 60 months, while 74 were lost to follow-up. Comparison between B and non-B subtypes showed a higher rate of failure among non-B subtypes (OR 2.868 95% CI 1.018 to 10.016 p=0.0380) at one year, but this was no longer significant at 24 months (p=0.1534) and 48 months (p=0.0716).

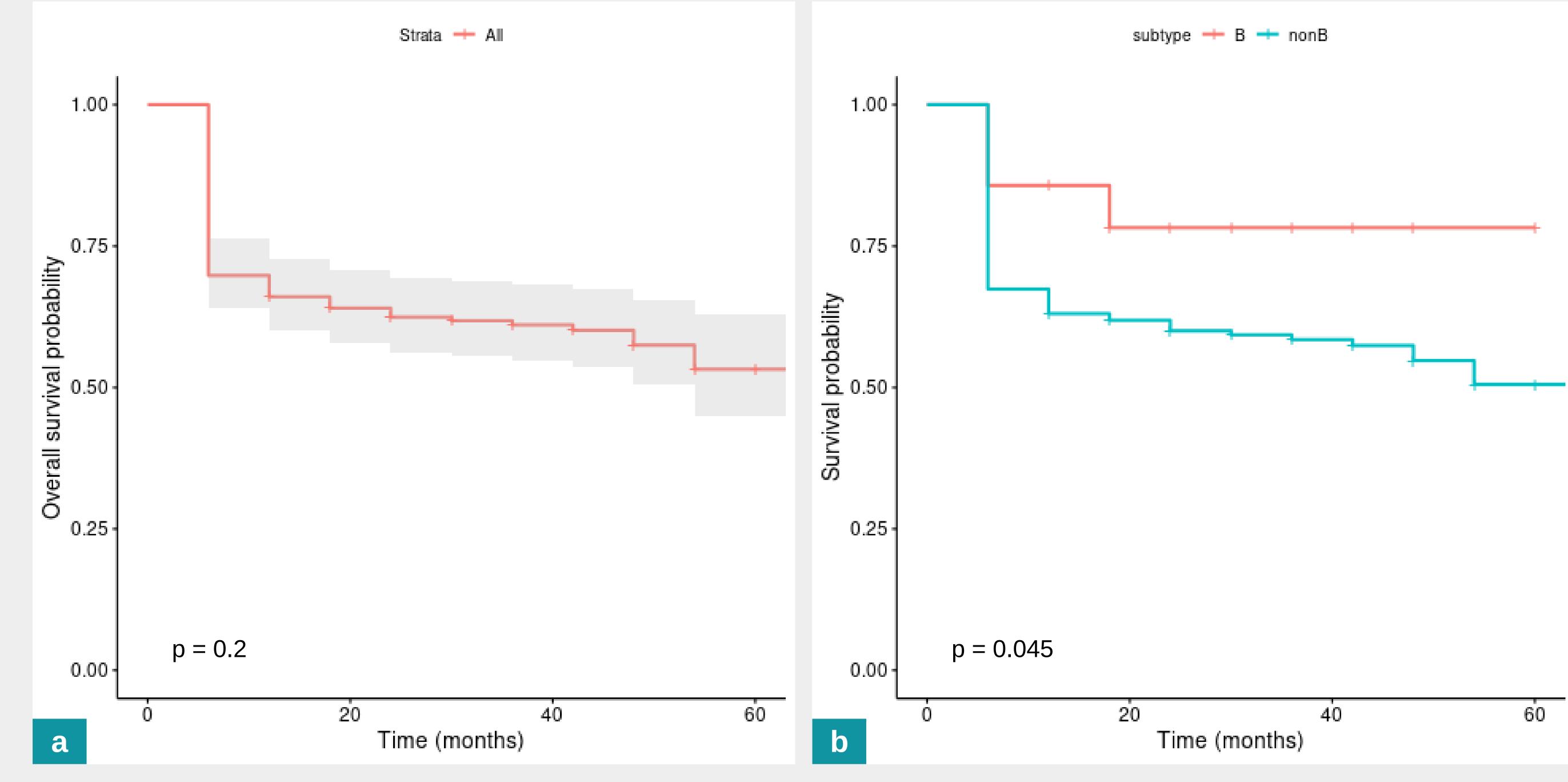


Figure 1. Kaplan-Meier estimates for probability of survival (a) overall, (b) pairwise comparison of B vs non-B subtypes

HIV viral suppression at one year of treatment is 65.6% in an intention to treat analysis. Non-B subtypes are more likely to fail than those with B subtypes in the first year of treatment.

# CONCLUSION

HIV viral suppression at one year of treatment is 65.6% in an intention to treat analysis. It is 63.4% at 24 months and 60.8% at 48 months. Excluding dropouts, viral suppression is 95.5%, 92.3%, and 89.0% at 12, 24, and 48 months, respectively. Non-B subtypes are more likely to fail than those with B subtypes in the first year of treatment. Loss to follow-up is a significant problem in the Philippines and needs to be addressed proactively in order to improve local efforts to reach the 90-90-90 thresholds of UNAIDS for control of HIV in the country.

Table 1. Treatment failure for a Filipino PLHIV prospective cohort

time, months	Population at risk	Outcome event (not suppressed + dropout)	Outcome event (cumulative)	Treatment failures	Treatment failures (cumulative)	Cumulative loss to follow up	virally suppressed	virally suppressed (excluding dropouts)	virally suppressed (including dropouts)
	227								
6.0	227	72	72	2	2	70	155	0.987	0.683
12.0	155	6	<b>78</b>	5	7	71	149	0.955	0.656
18.0	149	4	82	4	11	71	145	0.929	0.639
24.0	145	1	83	1	12	71	144	0.923	0.634
30.0	144	1	84	1	13	71	143	0.917	0.630
36.0	143	2	86	2	15	71	141	0.904	0.621
42.0	141	1	87	1	16	71	140	0.897	0.617
48.0	140	2	89	1	17	72	138	0.890	0.608
54.0	138	2	91	0	17	74	136	0.889	0.599
60.0	136	0	91	0	17	74	136	0.889	0.599

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