REPÚBLICA DE MOÇAMBIQUE
Ministério da saúde

FUNDAÇÃO ARIEL GLASER CONTRA O SIDA PEDIÁTRICO

UPTAKE AND RETENTION INTO CARE OF PREGNANT WOMEN STARTING OPTION B+ IN MAPUTO PROVINCE

Authors: **Karajeanes E.,** Bila D., Augusto O., Lain M., Muianga B, Muluana C., Macuacua N., Chavana V e Vaz P.
[1]Fundação Ariel Glaser Contra o Sida Pediátrico; [2] Faculdade de Medicina UEM;
[3]Direcção Provincial de Saúde Maputo;

UNIVERSIDADE EDUARDO MONDLANE

CROI 2015 seattle

ID Number: 766

Background: Following the 2013 World Health Organization recommendation (WHO), Mozambique introduced the option B+ strategy to prevent mother to child transmission (PMTCT) of the human immunodeficiency virus (HIV). In Mozambique retention in care is still a challenge and undermines every effort made to control the epidemic. We compared attrition (defaulting from treatment or death) rates and retention in care of pregnant women (PW) initiating antiretroviral therapy (ART) on Option B+ with non-pregnant women of childbearing age initiating ART, followed at health facilities (HF) supported by Ariel Glaser Foundation in Maputo, Mozambique.

Methods: Cohort analysis was carried out on data from the electronic ART patient tracking system. Only women from HF starting at least 20 women on B+ between January and June 2014 are included (a HF is considered high volume if initiated at least 150 women on B+) (Figure 1). Anonymous data from women who initiated ART between January 2014 and June 2015 was extracted for analysis. Descriptive statistics and Kaplan-Meier estimates were used to estimate retention of B+ and non-pregnant women. Cox proportional hazards regression was used to estimate the hazard-rate of attrition (either lost to follow up or death) with robust adjusted standard errors. Adjusting covariates include HF's patient volume, WHO staging, prophylactic cotrimoxazole (CTZ), CD4 count, age at ART initiation, education and marital status.

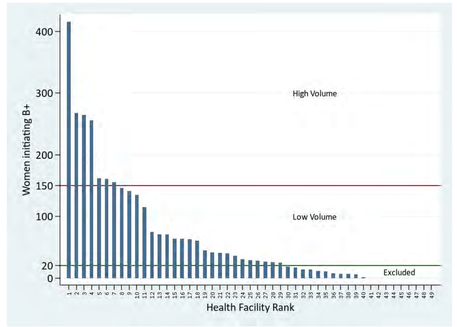

Figure 1: Classification of health facilities based on the number of women starting B+ per site between 1-Jan-2014 and 30-Jun-2014. Sites with at least 20 (green line) women initiated on B+ were included in the analysis. Sites above 150 (red line) are considered high volume

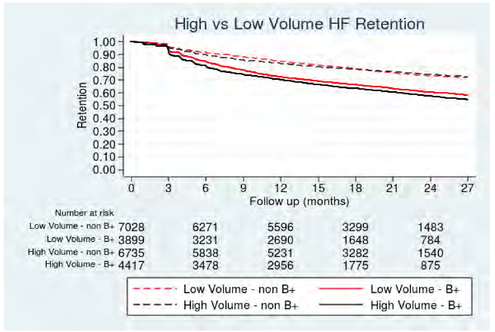

Figure 2: Depiction of cumulative retention in pregnant B+ women and non-B+ women from High versus Low volume facilities.

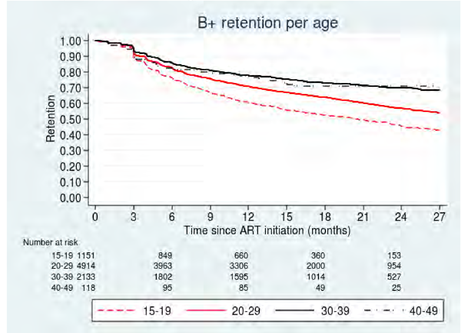

Figure 3: Depiction of cumulative retention of pregnant B+ women by age group (15-19, 20-29, 30-39 and 40-49).

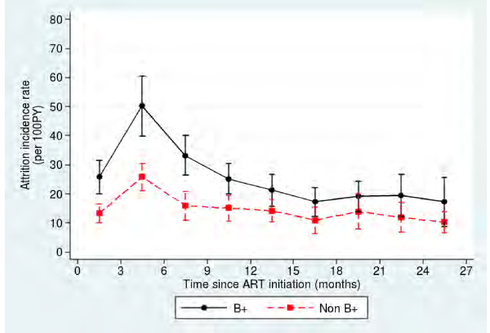

Figure 4: Depiction of cumulative incidence of attrition in pregnant B+ women versus non-B+ women

Results: Between 1-Jan-2014 and 30-Jun-2014 a total of 22079 women initiated ART in 29 HF. Of these 8316 were on B+ (table 1). At ART initiation, PW were younger than non-pregnant women (mean age 26.8 Vs. 32.4, P<0.001) and had less advanced disease (WHO I/II) (95.2% Vs 75.4%, P<0.0001). In both groups, women were more likely to be single, have primary education and be on TDF/3TC/EFV regimen (table 1). Lower cumulative retention was observed in PW on B+ at 12 and 24 months (71.5 and 59.1 vs. 83.9 and 74.0, P < 0.001) than in non-pregnant women, regardless of HF volume (figure 2); and among B+ under-20 years old women had the worst retention figures (figure 3). Among PW on B+, incidence of attrition was more likely to occur within first 6 months and was higher compared to non-PW (25.9/100 PY; 95% CI: 20.1 - 31.6 vs. 13.3/100 PY; 95% CI:10.1 - 16.5) (Figure 4). Risk factors associated with higher attrition were being pregnant PW (adjusted HR:1.65; 95% CI: 1.44–1.88), lower age (15-19) and illiteracy (table 2).

Table 1 Baseline characteristics of the women included in the analysis

Characteristic	Non Pregnant initiating ART		Pregnant initiating B+		Total		p-value
	N	%	N	%	N	%	
Total	13763		8316		22079		
Age at ART initiation							
15 – 19	597	4.3	1151	13.8	1748	7.9	<0.0001
20 – 29	5187	37.7	4914	59.1	10101	45.7	
30 – 39	5454	39.6	2133	25.6	7587	34.4	
40 – 49	2525	18.3	118	1.4	2643	12.0	
Mean (SD)	32.4 (7.86)		26.8 (5.77)		30.3 (7.64)		< 0.0001
Education							< 0.0001
None	987	7.2	383	4.6	1370	6.2	
Primary	6148	44.7	3336	40.1	9484	43.0	
Secondary	1992	14.5	1707	20.5	3699	16.8	
Miss	4636	33.7	2890	34.8	7526	34.1	
Marital status							< 0.0001
Single	5642	41.0	3329	40.0	8971	40.6	
Married	4017	29.2	2418	29.1	6435	29.1	
Other	649	4.7	71	0.9	720	3.3	
Miss	3455	25.1	2498	30.0	5953	27.0	
WHO Status on ART initiation							< 0.0001
I	7900	57.4	7309	87.9	15209	68.9	
II	2484	18.0	611	7.3	3095	14.0	
III	2613	19.0	244	2.9	2857	12.9	
IV	594	4.3	54	0.6	648	2.9	
Miss	172	1.2	98	1.2	270	1.2	
III/IV	3207	23.3	298	3.6	3505	15.9	< 0.0001
Has CD4 on ART initiation	10700	77.7	4956	59.6	15656	70.9	< 0.0001
Median (IQR)	275 (155 - 369)		381 (263 - 547)		304 (184 - 442)		< 0.0001
Mean (SE)	304.2 (8.33)		422.6 (4.92)		341.7 (5.92)		< 0.0001
Prophylactic CTZ	11591	84.2	7665	92.2	19256	87.2	< 0.0001

Table 2. Adjusted and unadjusted for Hazzard ratio for attrition in pregnant women on B+

Characteristic	Unadjusted			Adjusted		
	HR	%	p-value	HR	%	p-value
Total subjects	22079			22079		
Exposure group			< 0.001			< 0.001
Non B+	1	-		1	-	
B+	1.80	1.59 - 2.04		1.65	1.44 - 1.88	
Age at ART initiation			< 0.001			< 0.001
15 - 19	2.25	1.99 - 2.53		1.98	1.79 - 2.19	
20 - 29	1	-		1	-	
30 - 39	1.47	1.36 - 1.58		1.38	1.31 - 1.46	
40 - 49	0.81	0.74 - 0.89		0.91	0.83 - 1.00	
Education			0.001			0.001
None	1.31	0.99 - 1.75		1.48	1.16 - 1.90	
Primary	1	-		1	-	
Secondary	1.05	0.93 - 1.19		0.91	0.81 - 1.02	
Miss	1.22	1.03 - 1.45		1.09	0.99 - 1.20	
Marital status			< 0.001			< 0.001
Single	1	-		1	-	
Married	0.84	0.74 - 0.96		0.86	0.75 - 0.99	
Other	0.59	0.47 - 0.74		0.77	0.63 - 0.95	
Miss	1.18	1.00 - 1.39		1.08	0.96 - 1.20	
Facility volume			0.552			0.553
Low	1	-		1	-	
High	1.09	0.82 - 1.44		1.08	0.84 - 1.38	
WHO Status on ART initiation			0.094			0.015
Not III/IV	1.10	0.98 - 1.24		0.85	0.75 - 0.97	
III/IV	1	-		1	-	
Prophylactic CTZ			0.511			0.023
No	1	-		1	-	
Yes	0.94	0.79 - 1.13		0.82	0.69 - 0.97	

Correspondence: Esmeralda Karajeanes, Technical Director , Fundação Ariel Glaser Contra o SIDA Pediatrico – Moçambique.
Email: ekarajeanesl@arielglaser.org.mz

Discussion: The results from this study suggest that the benefits of ART to prevent MTCT through implementation of option B+ can be undermined by low retention rates in pregnant women on B+. Programmatic strategies should be implemented in order to monitor and improve retention among HIV positive pregnant women with particular emphasis to young and illiterate girls.

Acknowledgements: This research has been supported by the President's Emergency Plan for AIDS Relief (PEPFAR) through the Centers for Disease Control and Prevention (CDC) under the terms of Grant number 5U2GGH000151-05.