

Viral Suppression and Retention in Care 2-5 Years after ART Initiation in Pregnancy in Uganda

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Disclosures

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Option B+ cascade of care

Uganda adopted Option B+ in 2012 with roll-out in 2013

- 95% of pregnant women tested for HIV¹
- >85% of HIV-infected pregnant women initiated on ART

Concerns about effectiveness

- 52-73% achieve viral suppression at delivery^{2,3}
- 17-40% lost to follow-up (LTFU) at 12 months postpartum^{4,5,6}
- Higher LTFU than women initiating ART for clinical indication⁴

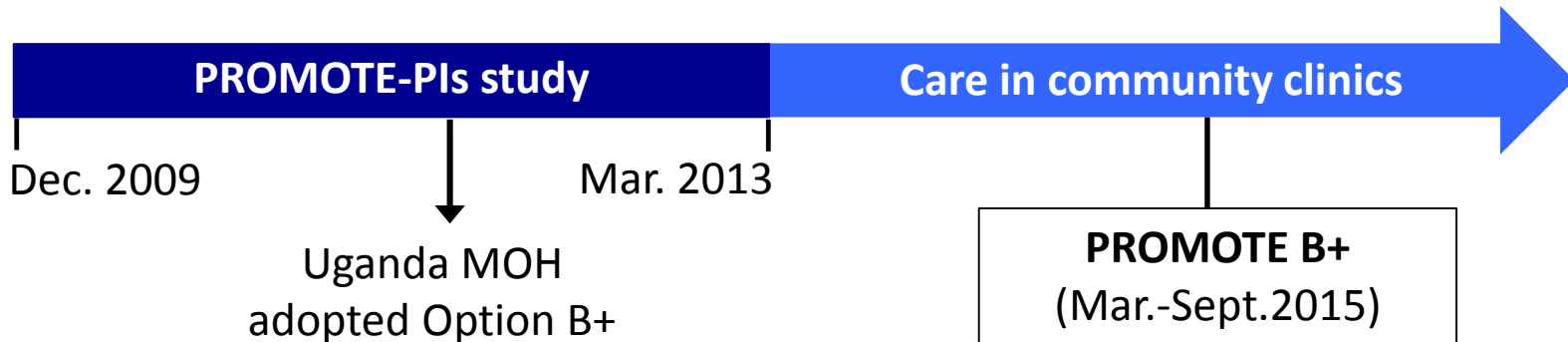
Knowledge gaps

- Long-term retention in care following cessation of breastfeeding
- Reasons for disengagement from care
- Data on viral suppression, particularly in rural clinics

PROMOTE B+: Objectives

1. To evaluate retention in care and viral suppression up to 5 years postpartum in a population that initiated lifelong ART during pregnancy.
2. To assess vital status and HIV status of infants born from index and subsequent pregnancies after ART initiation.

Study methods and schema



- HIV-infected women who initiated lifelong ART during pregnancy in the PROMOTE-Pregnant Women and Infants (PIs) study¹ in Tororo, Uganda
 - Lifelong ART ~3 years before national guidelines
 - Breastfed and were followed up to 1 year postpartum
 - Referred for ongoing ART in community clinics
- 200 women were randomly selected for **PROMOTE B+**
 - Cross-sectional follow-up study

Study procedures

Recruitment and tracking

- Home visitors: up to 3 contact attempts by phone or in-person
 - Invitation to participate in study
 - Information on vital status and if participant had relocated

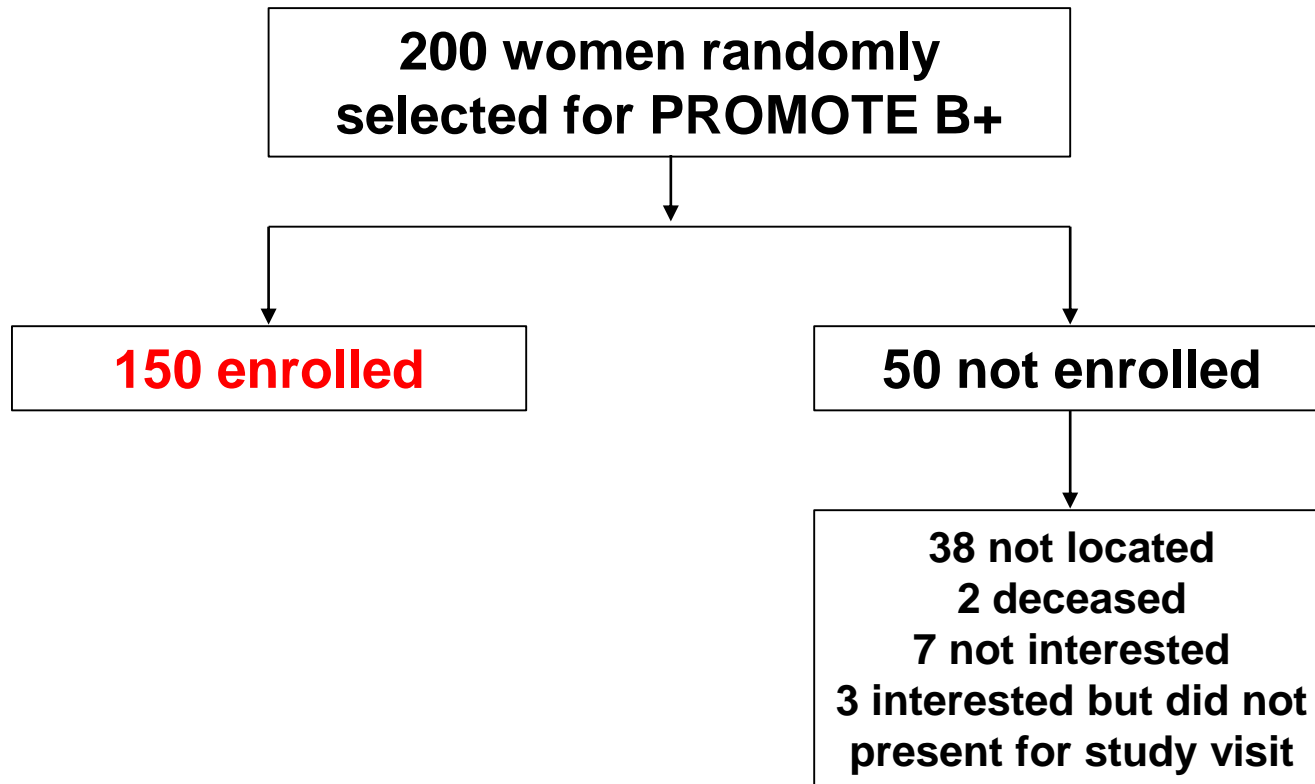
Study visit

- Questionnaire:
 - Demographics, food insecurity (Household Hunger Scale¹), partnerships, subsequent pregnancies, infant vital status
- Personal clinical record booklets (provider documentation):
 - Date of most recent clinic visit, ART regimen, CD4 cell count, infant HIV testing
- Urine pregnancy test
- HIV-1 RNA test

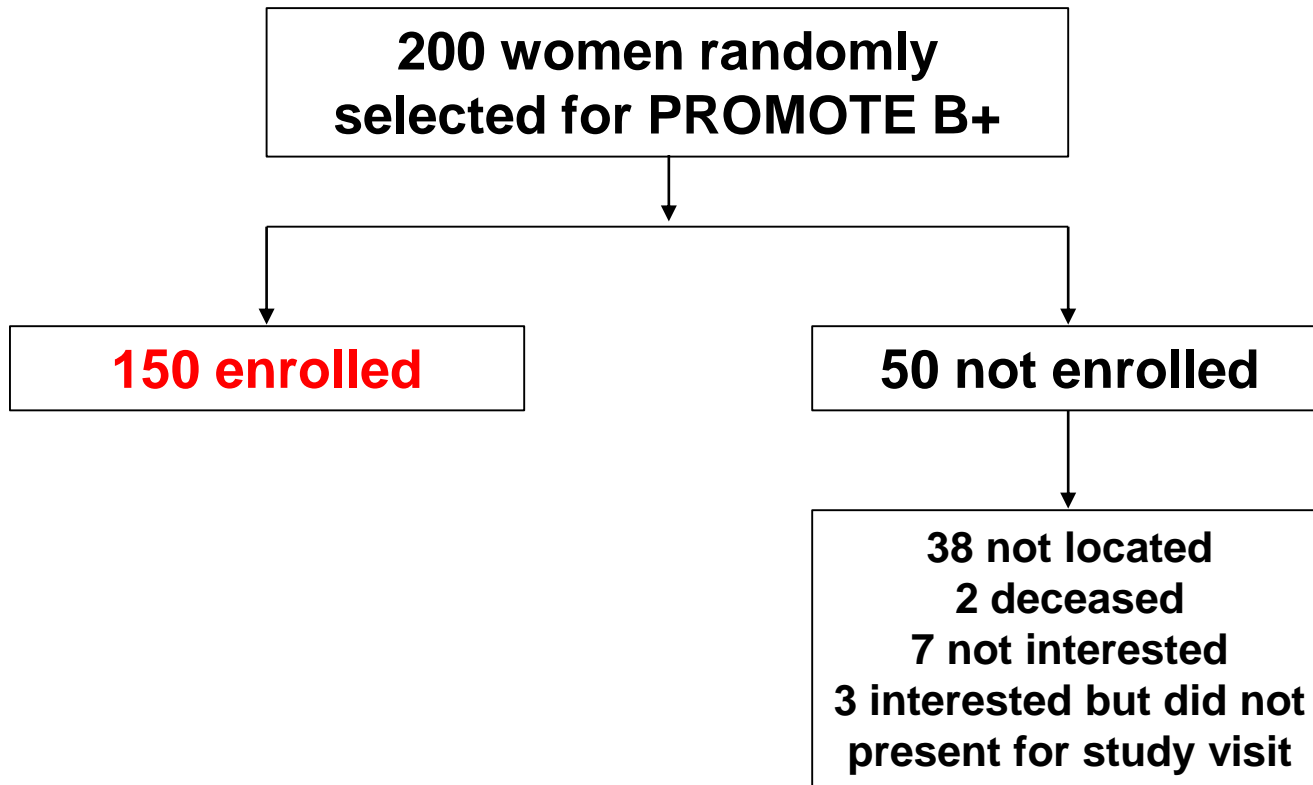
Analysis

- Primary outcomes
 - **Viral suppression:** HIV-1 RNA <400 copies/ml
 - **Retention in care:** Attended HIV clinic in past 90 days
- Predictors of viral suppression
 - Logistic regression models

Results: Enrollment



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Similar except 3% (enrolled) vs. 32% (not enrolled) withdrawn from initial study

Characteristics of enrolled participants (N=150)

Characteristic	n (%) or median (IQR)
Age, years	34.5 (29.9-37.6)
Food insecurity	55 (37%)
No. of living children	4 (3-6)
Years since ART initiation	4.2 (3.4-4.7)
Years postpartum following index pregnancy on ART	3.8 (3.1-4.3)
≥ 1 Pregnancy after ART initiation	58 (39%)
Pregnant	19 (13%)
Breastfeeding	23 (15%)

Partnerships (N = 150)

Characteristic	n (%)
Relationship status	
Single	14 (9%)
Married monogamous	67 (45%)
Married polygamous	53 (35%)
Divorced	8 (5%)
Widowed	8 (5%)
HIV status of primary partner*	
Positive	89 (59%)
Negative	28 (19%)
Unknown	22 (15%)
Participant has disclosed HIV status to partner*	
Yes	131 (87%)

* 7.3% reported no primary partner

HIV-related characteristics (N = 150)

Characteristic	n (%) or median (IQR)
Most recent CD4 count, cells/mm ³	664 (476-870)
ART taken in last 3 days	131 (87%)
Current ART regimen ¹	
Efavirenz	78 (59%)
Nevirapine	35 (27%)
Lopinavir	18 (14%)
Public clinic (vs. private/PEPFAR-funded) ²	87 (63%)
Total no. of HIV clinics (all participants)	33

¹ Among participants taking ART

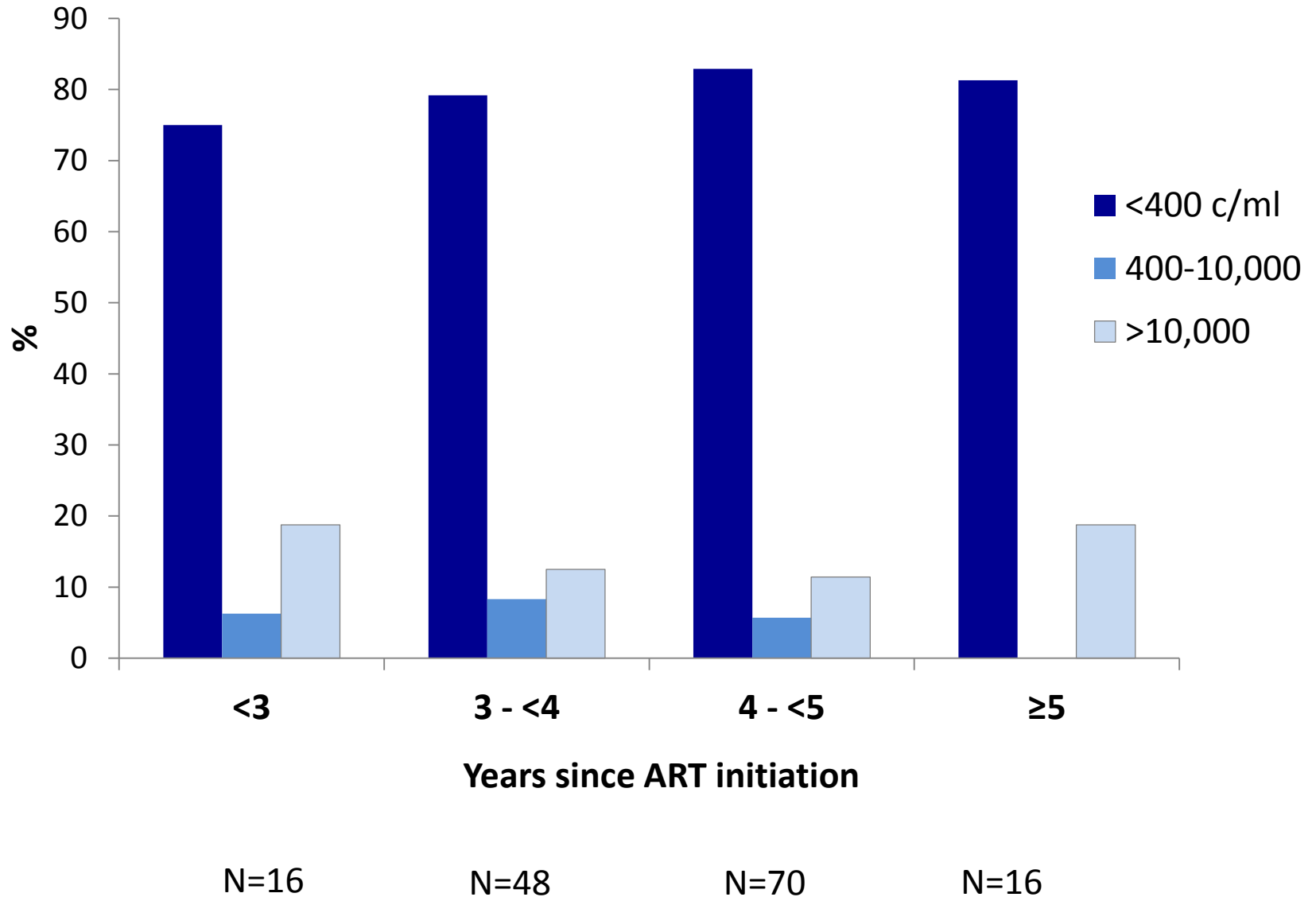
² Among participants in care

Retention in care and viral suppression

	n/N	% (95% CI)
Retention in care	135/150	90.0 (84.0-94.3)
Not enrolled = out of care (M=F)	135/200	67.5 (60.5-73.9)
Viral suppression	121/150	80.7 (73.4-86.7)
Participants retained in care	121/135	89.6 (83.2-94.2)
Not enrolled = unsuppressed (M=F)	121/200	60.5 (53.6-67.3)

M=F, missing = failure

Viral suppression sustained years after ART initiation (N = 150)



Factors associated with viral suppression

		OR (95% CI)	aOR (95% CI)
HIV status disclosed to partner		5.24 (1.21-22.6)	4.51 (1.02-19.8)
Food security		2.61 (1.00-6.88)	2.27 (0.78-6.59)
Age, per 10 years		1.83 (0.83-4.00)	
Years since ART initiation		1.30 (0.62-2.74)	
Higher than primary level education		0.78 (0.17-3.57)	
PEPFAR/private vs. government clinic		0.68 (0.30-1.57)	
Phone ownership		2.23 (0.94-5.3)	
Pregnant or breastfeeding vs. neither		0.98 (0.40-2.44)	
Viral suppression at delivery in index pregnancy on ART		5.0 (0.95-26.4)	
ART regimen vs. EFV	NVP	0.59 (0.17-2.01)	
	LPV	1.68 (0.19-14.5)	

Infant outcomes

PROMOTE-PIs study

Care in community clinics

Index pregnancy on ART

(N = 147 infants)

144 alive

2 deceased

1 unknown vital status

0 HIV-infected

Subsequent pregnancies

(N = 46 infants)

46 alive

0 deceased

1 HIV-infected

Summary

- Following initiation of Option B+, of women who were successfully contacted at 2-5 years postpartum
 - 90% were retained in care
 - 80.7% demonstrated viral suppression
- Viral suppression was associated with
 - Disclosure of HIV status to primary partner
 - Food security¹

Discussion

- Successful viral suppression can be achieved for up to 5 years after ART initiation, including in subsequent pregnancies
- Interventions to facilitate disclosure and to address food insecurity may improve long-term outcomes
- Retention in care may be suboptimal among women who were not successfully contacted for follow-up
- Mobile population – tools to track patients across clinic systems would be valuable to monitor and optimize long-term outcomes

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PROMOTE B+ study participants

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