

Characteristics and Outcomes of HIV-infected Pregnant Women Accepting Combination ART for PMTCT in Zambia

K. Cherry Liu, MD

Centre for Infectious Disease Research in Zambia
University of North Carolina

Authors: Jessica Mulindwa, Jessica Joseph, Carla Chibwasha, Namwinga Chintu,
Jeffrey SA Stringer, Bellington Vwalika, Mwangelwa Mubiana-Mbewe, B Chi

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CIDRZ

BACKGROUND

PMTCT in Zambia

- Evolution of national guidelines
 - From Option A (with pilot Option B sites)
 - To Option B+ in 2013-2014
- Data describing the uptake of combination ARV regimens for PMTCT +/- treatment (cART) at one pilot Option B site

MATERIALS & METHODS

HIV in Pregnancy Clinic

- Who: For HIV-infected pregnant and breastfeeding women; Seen by trained doctors and specialists
- What: HIV care and treatment
- Where: Adult Infectious Disease Centre at the University Teaching Hospital in Lusaka
- When: 2008 to 2011
- How: cART offered to all HIV-infected pregnant and breastfeeding women*

*National guidelines at the time limited treatment to only those with CD4 count \leq 350 cells/ μ L or WHO Stage 3 or 4

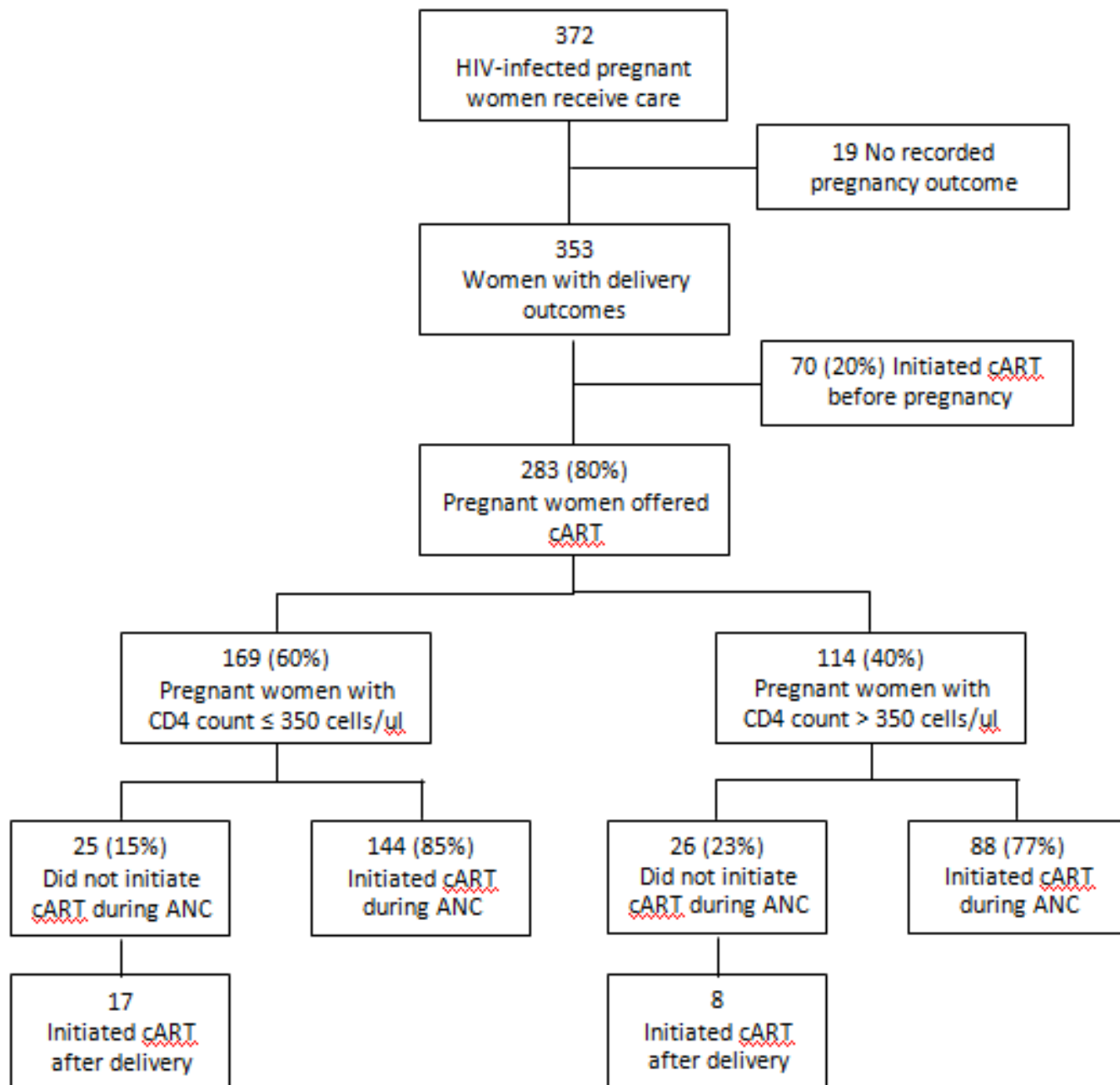
Data Sources

- Zambia Electronic Perinatal Record System (ZEPRS)
- SmartCare
- Medical file extraction

Descriptive Data Analysis

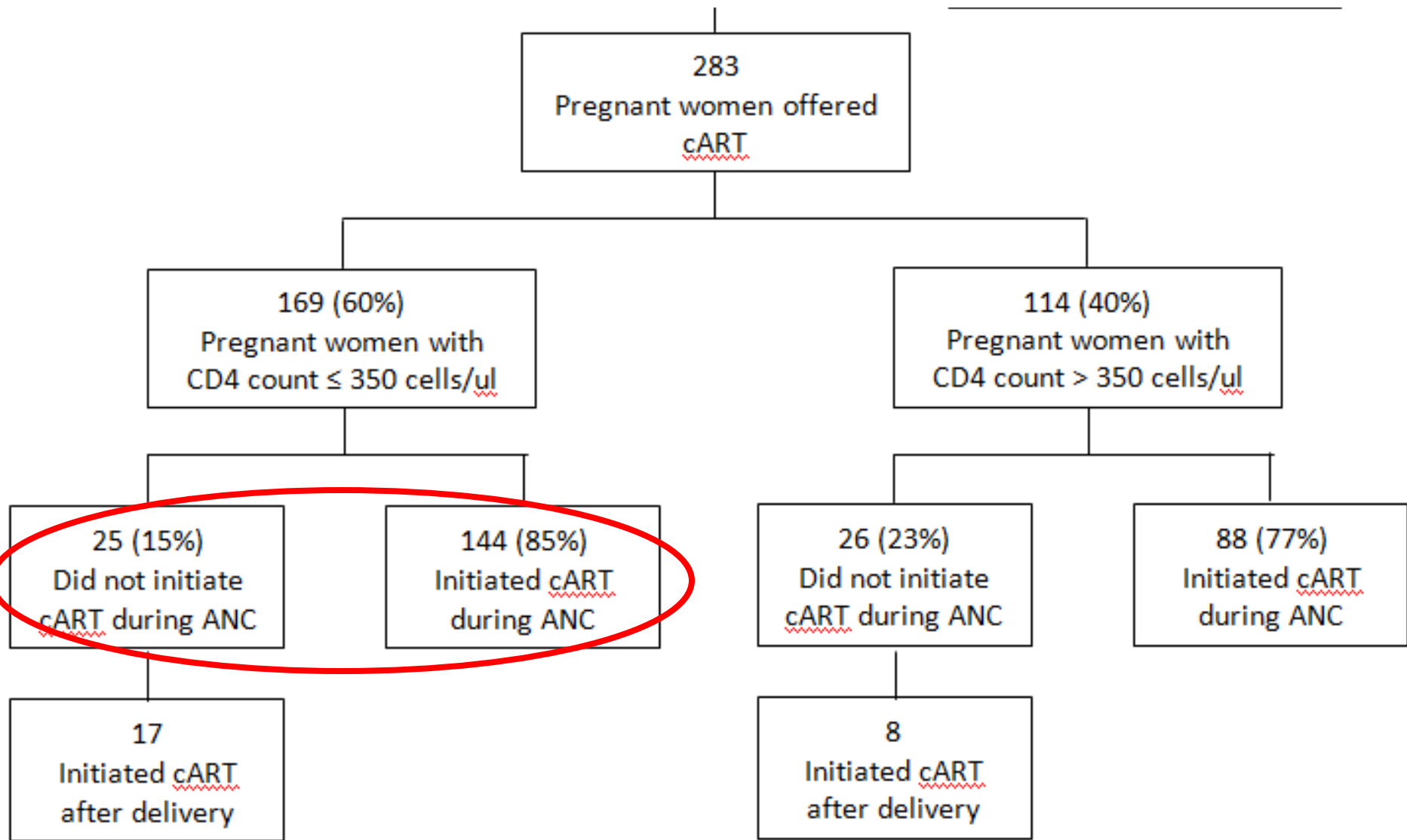
- Characteristics associated with antenatal cART initiation stratified by CD4 count
- Factors associated with postnatal cART initiation
- Pregnancy and HIV outcomes between those who started antenatal cART and those who did not stratified by CD4 count

RESULTS



Results

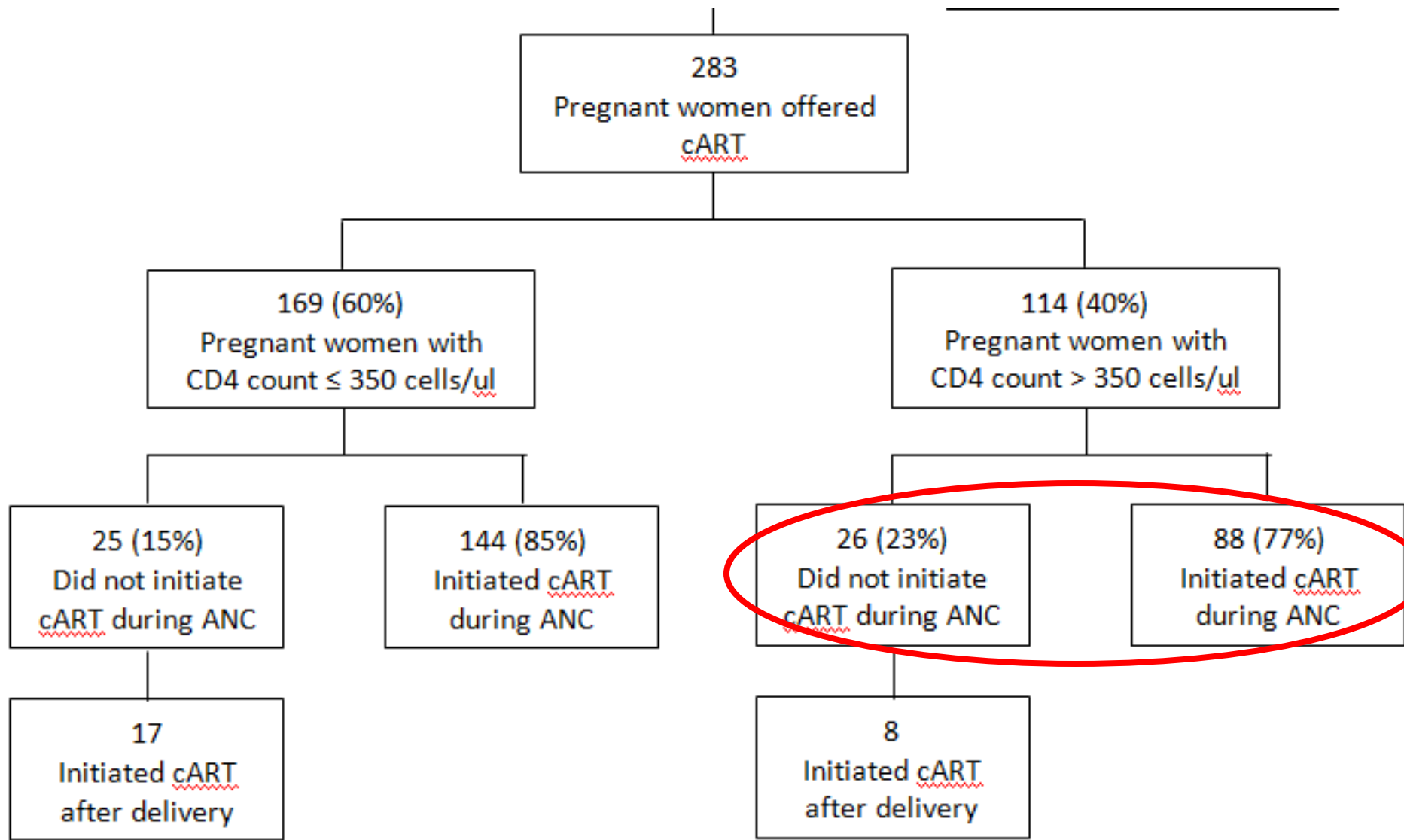
- Characteristics associated with antenatal cART initiation stratified by CD4 count
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Maternal characteristic for CD4 ≤ 350	Did not initiate antenatal cART N=25	Initiated antenatal cART N=144	pvalue
Maternal age, median (IQR), yrs	32.1 (29.4, 36.5)	30.8 (27.1, 33.5)	0.10
Maternal weight, median (IQR), kg	64.0 (55.0, 71.0)	65.0 (58.0, 73.0)	0.55
EGA at first ANC, median (IQR), wks	20.0 (15.6, 27.7)	18.6 (13.6, 23.3)	0.18
Gravidity, median (IQR)	3 (2, 5)	3 (2, 4)	0.04
Parity, median (IQR)	2 (1, 3)	1 (1, 2)	0.10
Previous live births, median (IQR)	2 (1, 3)	1 (0, 2)	0.12
Hepatitis B status			
Positive	0 (0%)	2 (1%)	0.80
Negative	11 (44%)	58 (40%)	
Not tested	14 (56%)	84 (58%)	
Active tuberculosis	1 (4%)	2 (1%)	0.36

Maternal characteristic for CD4 ≤ 350	Did not initiate antenatal cART N=25	Initiated antenatal cART N=144	pvalue
CD4 count at enrollment			
≤ 200	9 (36%)	73 (51%)	0.18
201-350	16 (64%)	71 (49%)	
WHO stage at enrollment*			
Stage 1/2	18 (82%)	123 (93%)	0.11
Stage 3/4	4 (18%)	10 (7%)	
Known HIV-infected status	5 (20%)	48 (33%)	0.19
Disclosed to husband	15 (60%)	109 (76%)	0.10
Husband's HIV status			
Positive	3 (12%)	41 (29%)	0.35
Negative	3 (12%)	13 (9%)	
Unknown	19 (76%)	89 (62%)	
Deceased	0 (0%)	1 (1%)	

* Percentages based on categories shown.

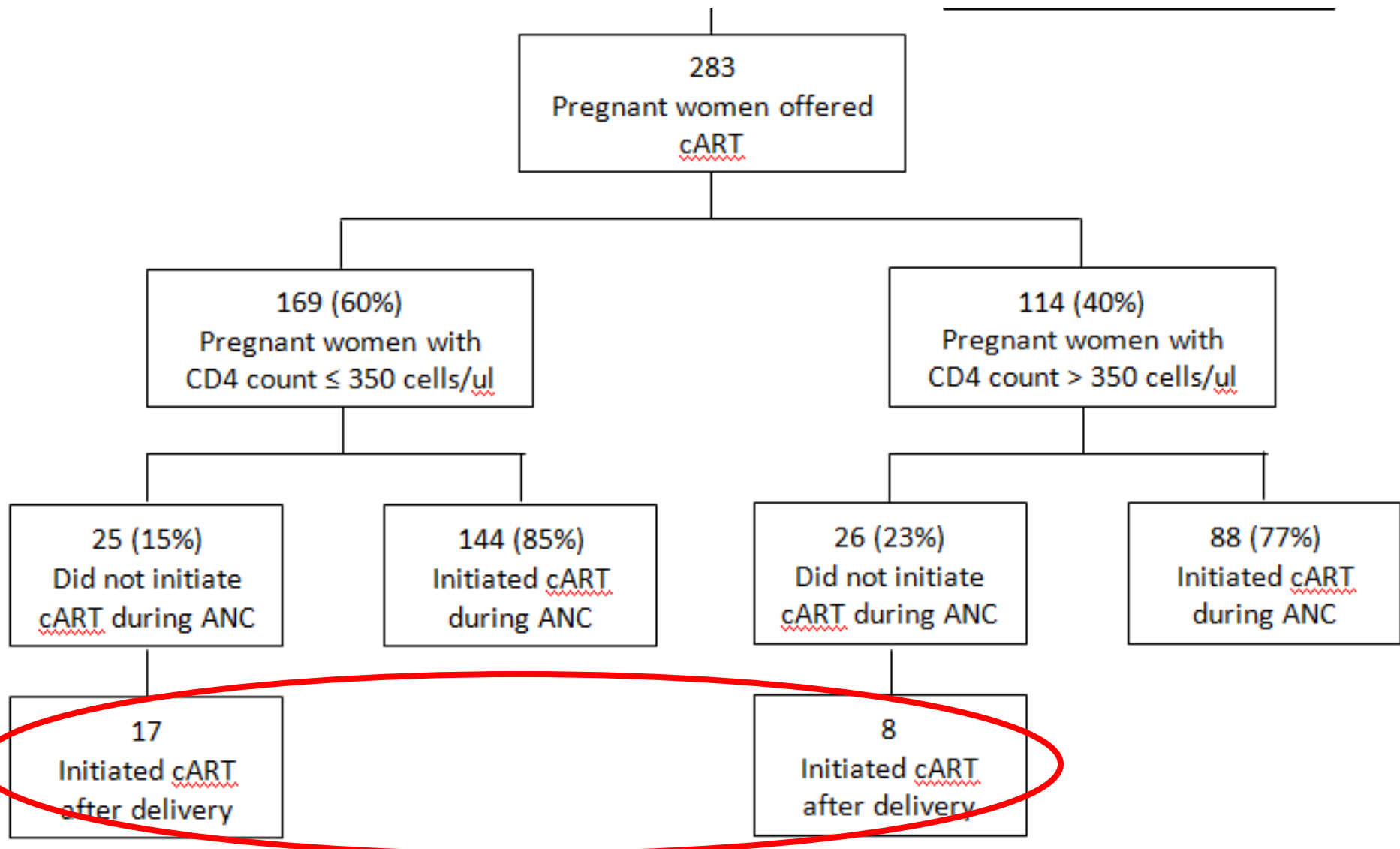


Maternal characteristic for CD4 > 350	Did not initiate antenatal cART N=26	Initiated antenatal cART N=88	pvalue
Maternal age, median (IQR), yrs	27.7 (24.6, 33.4)	31.1 (27.6, 34.9)	0.07
Maternal weight, median (IQR), kg	63.5 (53.0, 74.5)	71.0 (63.0, 79.5)	<0.05
EGA at first ANC, median (IQR), wks	21.2 (15.3, 29.7)	18.6 (13.3, 24.6)	0.20
Gravidity, median (IQR)	3 (2, 4)	3 (2, 4)	0.76
Parity, median (IQR)	2 (0, 2)	2 (1, 2)	0.82
Previous live births, median (IQR)	1 (0, 2)	1 (0, 2)	0.47
Hepatitis B status			
Positive	0 (0%)	2 (2%)	0.74
Negative	7 (27%)	23 (26%)	
Not tested	19 (73%)	63 (72%)	
Active tuberculosis	1 (4%)	0 (0%)	0.07

Maternal characteristic for CD4 > 350	Did not initiate antenatal cART N=26	Initiated antenatal cART N=88	pvalue
CD4 count at enrollment			
351-500	13 (50%)	48 (55%)	0.68
>500	13 (50%)	40 (45%)	
WHO stage at enrollment*			
Stage 1/2	19 (95%)	79 (97%)	0.55
Stage 3/4	1 (5%)	2 (3%)	
Known HIV-infected status	9 (35%)	28 (32%)	0.79
Disclosed to husband	15 (58%)	62 (71%)	0.22
Husband's HIV status			
Positive	9 (35%)	26 (30%)	0.72
Negative	3 (12%)	9 (10%)	
Unknown	13 (50%)	52 (59%)	
Deceased	1 (4%)	1 (1%)	

Results

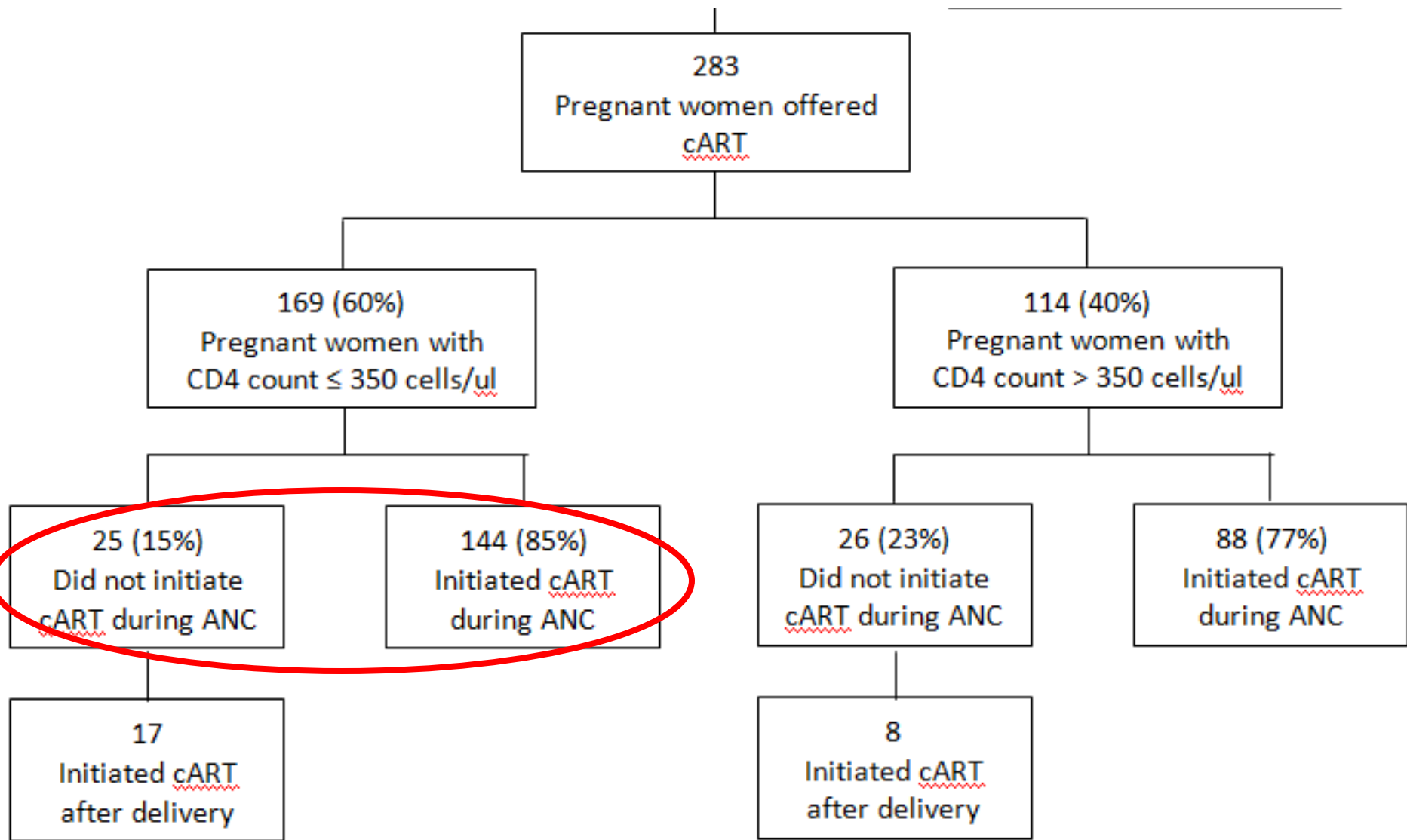
- Characteristics associated with antenatal cART initiation stratified by CD4 count
- **Factors associated with postnatal cART initiation**
- Pregnancy and HIV outcomes between those who started antenatal cART and those who did not stratified by CD4 count



Maternal characteristic or pregnancy outcome	Did not initiate postnatal cART N=26	Initiated postnatal cART N=25	pvalue
Caesarean delivery	4 (15%)	2 (8%)	0.41
Stillbirth	3 (12%)	0 (0%)	0.08
Birth weight, median (IQR), g	2900 (2600, 3490)	2900 (2540, 3200)	0.89
5 min Apgar score	9 (9, 9)	9 (9, 9)	0.32
NICU admission	0 (0%)	1 (4%)	
Initial feeding method			
Breastfeeding	17 (74%)	21 (88%)	0.24
Formula feeding	6 (26%)	3 (12%)	
Most recent CD4 preceding postnatal initiation, median (IQR)			0.06
≤ 350	8 (31%)	17 (68%)	<0.01
> 350	18 (69%)	8 (32%)	

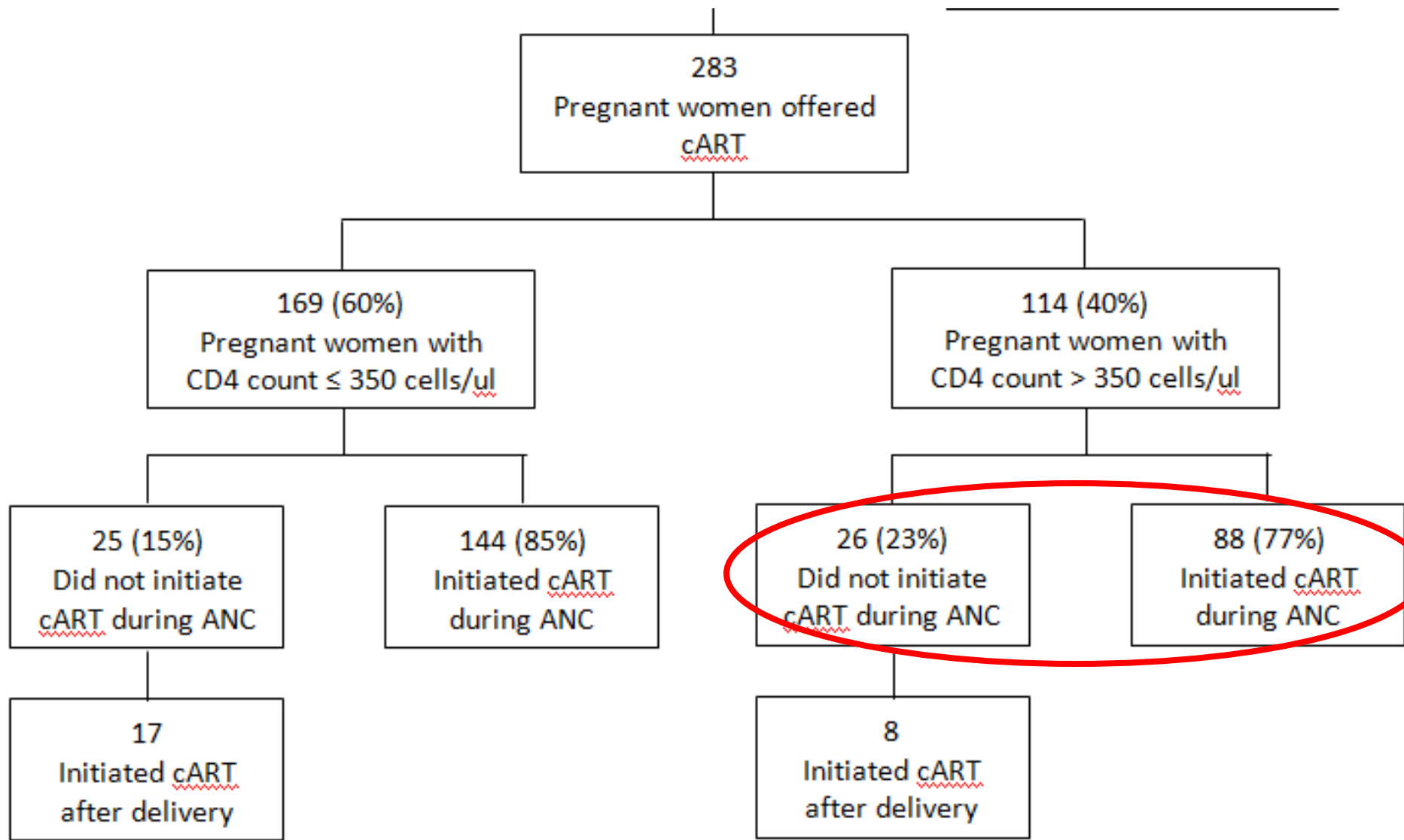
Results

- Characteristics associated with antenatal cART initiation stratified by CD4 count
- Factors associated with postnatal cART initiation
- **Pregnancy and HIV outcomes between those who started antenatal cART and those who did not stratified by CD4 count**



Pregnancy outcomes for CD4 ≤ 350	Did not initiate antenatal cART N=25	Initiated antenatal cART N=144	pvalue
Pregnancy outcome			
Live birth	23 (92%)	136 (94%)	0.75
Miscarriage	0 (0%)	1 (1%)	
Stillbirth	2 (8%)	7 (5%)	
Birth weight, median (IQR), g	3000 (2700, 3200)	3000 (2640, 3340)	0.72
5 min Apgar score	9 (9, 9)	9 (9, 9)	0.74
Initial feeding method			
Formula feeding	3 (13%)	45 (33%)	0.05
Breastfeeding	20 (87%)	91 (67%)	
Duration BF, median (IQR), days	103.0 (30.5, 171.0)	109.0 (42.0, 181.0)	0.14
Cesarean delivery	3 (12%)	40 (28%)	0.09
NICU admission	1 (4%)	3 (2%)	0.56

MTCT outcomes for CD4 ≤ 350	Did not initiate antenatal cART N=25	Initiated antenatal cART N=144	pvalue
Infant 6 week HIV DNA PCR test			
Positive	2 (8%)	4 (3%)	0.25
Negative	13 (52%)	101 (70%)	
Not tested	8 (32%)	29 (20%)	
N/A (ie, dead)	2 (8%)	10 (7%)	
Infant 6 month HIV DNA PCR test			0.08
Positive	0 (0%)	2 (1%)	
Negative	10 (40%)	93 (65%)	
Not tested	13 (52%)	39 (27%)	
N/A (ie, dead)	2 (8%)	10 (7%)	



Pregnancy outcomes for CD4 > 350	Did not initiate antenatal cART N=26	Initiated antenatal cART N=88	pvalue
Pregnancy outcome			
Live birth	25 (96%)	85 (97%)	0.92
Miscarriage	0 (0%)	0 (0%)	
Stillbirth	1 (3%)	3 (4%)	
Birth weight, median (IQR), g	2750 (2500, 3400)	3000 (2680, 3300)	0.31
5 min Apgar score	9 (9, 9)	9 (9, 9)	0.21
Initial feeding method			
Formula feeding	6 (25%)	35 (42%)	0.14
Breastfeeding	18 (75%)	39 (58%)	
Duration BF, median (IQR), days	91.3 (39.0, 182.6)	147.0 (91.3, 183.0)	0.74
Cesarean delivery	3 (12%)	24 (28%)	0.10
NICU admission	0 (0%)	1 (1%)	0.59

MTCT outcomes for CD4 > 350	Did not initiate antenatal cART N=26	Initiated antenatal cART N=88	pvalue
Infant 6 week HIV DNA PCR test			
Positive	1 (4%)	1 (1%)	0.25
Negative	19 (73%)	65 (74%)	
Not tested	5 (19%)	18 (20%)	
N/A (ie, dead)	1 (4%)	4 (5%)	
Infant 6 month HIV DNA PCR test			0.08
Positive	0 (0%)	0 (0%)	
Negative	9 (35%)	53 (60%)	
Not tested	16 (62%)	31 (35%)	
N/A (ie, dead)	1 (4%)	4 (5%)	

DISCUSSION

Limitations

- Retrospective chart extraction
- External validity / limited generalizability
- No multivariable analysis

Conclusions

- Those not treatment eligible were less likely to initiate combination ARVs even when offered
- Need to strengthen PMTCT messages for Option B+
- Critical role of community and cultural context

Thank you
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Questions