More Similar Than You May Think: A Comparison of Perinatally vs. Behaviorally Infected Young Adults Living With HIV

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① Background

- Many perinatally infected people living with HIV (PLWH) have reached adulthood.
- It is important to understand differences between perinatally infected and behaviorally infected PLWH to optimize effective interventions for each group.

② Objective

- The primary endpoint was to evaluate differences in HIV viral load. Secondary endpoints included evaluating ART adherence, comorbidities, CD4 counts, number of missed HIV care appointments, self-reported sexual activity, and substance use.

③ Methods

- Retrospective study from November 1, 2016 to December 31, 2018.
- Sample size included 38 perinatally infected PLWH and 51 behaviorally infected PLWH.
- Time periods chosen to capture patients' biannual visits in accordance with NYSDOH AIDS Institute guidelines.
- Data were extracted from the EMR.
- Comparisons were conducted using the Wilcoxon rank sum test and Fisher's exact test.

④ Results

Perinatally Infected PLWH had:

- ↑ Unsuppressed viral load
- ↓ CD4 count, patient reported ART adherence
- ↑ Female, unemployed, condom use
- ↓ STDs, alcohol use (smoking/drugs similar)
- ⟺ Racial composition, prevalence of comorbidities
- ⟺ Number and percentage of missing appointments

⑤ Table 1: Characteristics Compared by Perinatal/Behavioral HIV Status

VARIABLE	CATEGORY	TOTAL (N=89) n	TOTAL (N=89) %	PERINATAL (N=38) n	PERINATAL (N=38) %	BEHAVIORAL (N=51) n	BEHAVIORAL (N=51) %	P[a]
AGE (YEARS)		Med=32, IQR=30-35		Med=31, IQR=30-34		Med=33, IQR=30-36		0.160 [b]
GENDER	Female	41	46.1	26	68.4	15	29.4	0.001
	Male	48	53.9	12	31.6	36	70.6	
RACE	White	43	48.3	17	44.7	26	51	0.835
	Black	44	49.4	20	52.6	24	47.1	
	Asian	2	2.2	1	2.6	1	2	
ETHNICITY	Hispanic	14	15.7	4	10.5	10	19.6	0.378
	Non-Hispanic	75	84.3	34	89.5	41	80.4	
MARITAL STATUS	Married/ Partnered	12	13.5	4	10.5	8	15.7	0.546
	Single/ Separated	77	86.5	34	89.5	43	84.3	
EMPLOY-MENT	Employed	55	61.8	16	42.1	39	76.5	
	Unemployed	34	38.2	22	57.9	12	23.5	0.002
HOUSEHOLD	Alone	54	60.7	26	68.4	28	54.9	0.321
	Spouse/ S/O	4	4.5	0	0	4	7.8	
	Spouse/ S/O and children	9	10.1	4	10.5	5	9.8	
	Children	14	15.7	4	10.5	10	19.6	
	Other	8	9.0	4	10.5	4	7.8	
CHILDREN	Has children	25	28.1	10	26.3	15	29.4	
	No children	64	71.9	28	73.7	36	70.6	0.815
HOUSING TYPE	Permanent	10	11.2	2	5.3	8	15.7	0.107
	Rent	72	80.9	31	81.6	41	80.4	
	Non-permanent	4	4.5	2	5.3	2	3.9	
	Institution	3	3.4	3	7.9	0	0	
SEXUALLY ACTIVE	Yes	45	60.0	14	46.7	31	68.9	0.091
	No	30	40.0	16	53.3	14	31.1	
SEX PROTECTION	Yes	18	54.5	8	72.7	10	45.5	
	No	5	15.2	2	18.2	3	13.6	
	Sometimes	10	30.3	1	9.1	9	40.9	
SMOKING (CIGARETTES)	Yes	16	18.0	7	18.4	9	17.6	1.000
	No	64	71.9	27	71.1	37	72.5	
	Ex-smoker	9	10.1	4	10.5	5	9.8	
ALCOHOL USE	Yes	37	41.6	10	26.3	27	52.9	
	No	52	58.4	28	73.7	24	47.1	0.017
DRUG USE	Yes	22	24.7	9	23.7	13	25.5	
	No	67	75.3	29	76.3	38	74.5	1.000
DIABETES	Yes	1	1.1	0	0	1	2	1.000
	No	88	98.9	38	100	50	98	
CKD	Yes	3	3.4	2	5.3	1	2	0.573
	No	86	96.6	36	94.7	50	98	
CAD	No	89	100.0	38	100	51	100	NE
HTN	Yes	8	9.0	5	13.2	3	5.9	0.279
	No	81	91.0	33	86.8	48	94.1	
COPD	No	89	100.0	38	100	51	100	NE
ASTHMA	Yes	8	9.0	4	10.5	4	7.8	0.719
	No	81	91.0	34	89.5	47	92.2	
VIRAL LOAD SUPPRESSION	Suppressed	70	78.7	26	72.2	44	88	0.092
	Unsuppressed	16	18.0	10	27.8	6	12	
ART ADHERENCE	Yes	53	69.7	19	55.9	34	81	0.024
	No	23	30.3	15	44.1	8	19	
STDS	Yes	4	6.3	0	0.0	4	9.8	
	No	59	93.7	22	100.0	37	90.2	0.288
CD4 COUNT (/uL)		Med=719 IQR=472-1020		Med=673 IQR=476-923		Med=730.5 IQR=446-1056		0.413 [b]
VIRAL LOAD (copies/mL)		Med=30 IQR=30-30		Med=30 IQR=30-268.5		Med=30 IQR=30-30		0.103 [b]
EMERGENCY ROOM VISITS		Med=0 IQR=0-2		Med=0 IQR=0-2		Med=0 IQR=0-2		0.753 [b]
TOTAL APPTS		Med=10 IQR=8-13		Med=12 IQR=9-14		Med=9 IQR=7-12		0.005 [b]
MISSED APPTS		Med=3 IQR=1-6		Med=4 IQR=1-6		Med=3 IQR=1-4		0.384 [b]
PERCENT MISSED APPTS		Med=0.3 IQR=0.11-0.5		Med=0.32 IQR=0.09-0.5		Med=0.29 IQR=0.14-0.5		0.842 [b]

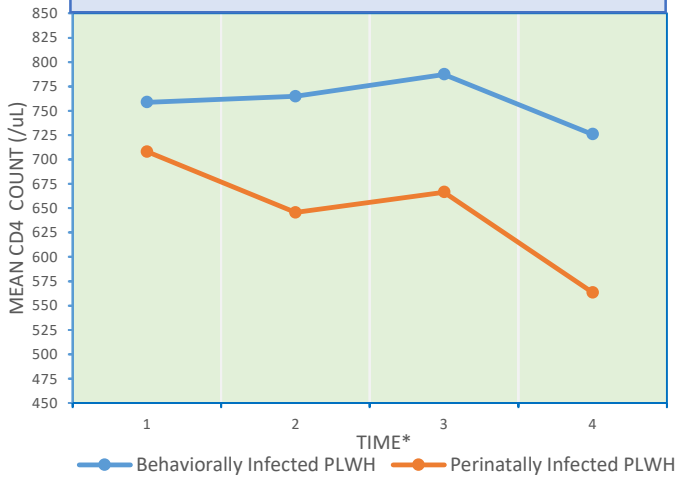
Med=Median. IQR=Interquartile range. NE=Not estimated. S/O=significant other APPTS=appointments. a. P-value from Fisher's exact test. b. P-value from Wilcoxon rank sum test

⑥ Table 2. A Comparison of Outcomes Over Time

OUTCOME	Time *	PERINATAL n	PERINATAL n %	PERINATAL Mean (SD)	BEHAVIORAL n	BEHAVIORAL n %	BEHAVIORAL Mean (SD)
VIRALLY UNSUPPRESSED	1	10	27.8	-	6	12	-
	2	7	21.9	-	3	8.1	-
	3	7	26.9	-	4	10.5	-
	4	4	28.6	-	2	8.7	-
ART NONADHERENCE	1	15	44.12	-	8	19.05	-
	2	6	23.08	-	5	17.2	-
	3	4	19.1	-	4	12.5	-
	4	3	30	-	5	22.7	-
CD4 COUNT (/uL)	1	38	-	708.06 (356.03)	51	-	758.72 (376.03)
	2	32	-	645.50 (349.70)	39	-	764.81 (341.25)
	3	27	-	666.42 (315.22)	39	-	787.29 (311.84)
	4	14	-	563.50 (229.83)	25	-	725.83 (324.75)

*1=Baseline clinic visit; 2= Earliest visit 180-359 days from baseline visit; 3=Earliest visit 360-539 days from baseline visit; 4=Earliest visit 540-719 days from baseline visit.

⑦ Figure 1. Observed Changes in CD4 Count Over Time



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⑧ Conclusion

- Despite differences in reported ART adherence, perinatally and behaviorally infected PLWH had similar rates of HIV viral load suppression and comparable absolute values and trends in CD4 count.

⑨ References

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