

Poor virological control in young adults with perinatally acquired HIV (PAHIV) – could modern antiretroviral therapy (ART) options provide a ray of hope for the future?

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Background

Young adults with PAHIV are reported to have poorer outcomes than others with HIV¹. We report the results of a single centre retrospective study at a tertiary referral centre.

Methods

Patients with PAHIV who attended a dedicated young adult HIV service between January 2010 and November 2018 were identified through electronic records. We reviewed demographics, ART and resistance history, co-morbidities and viral load (VL) suppression.

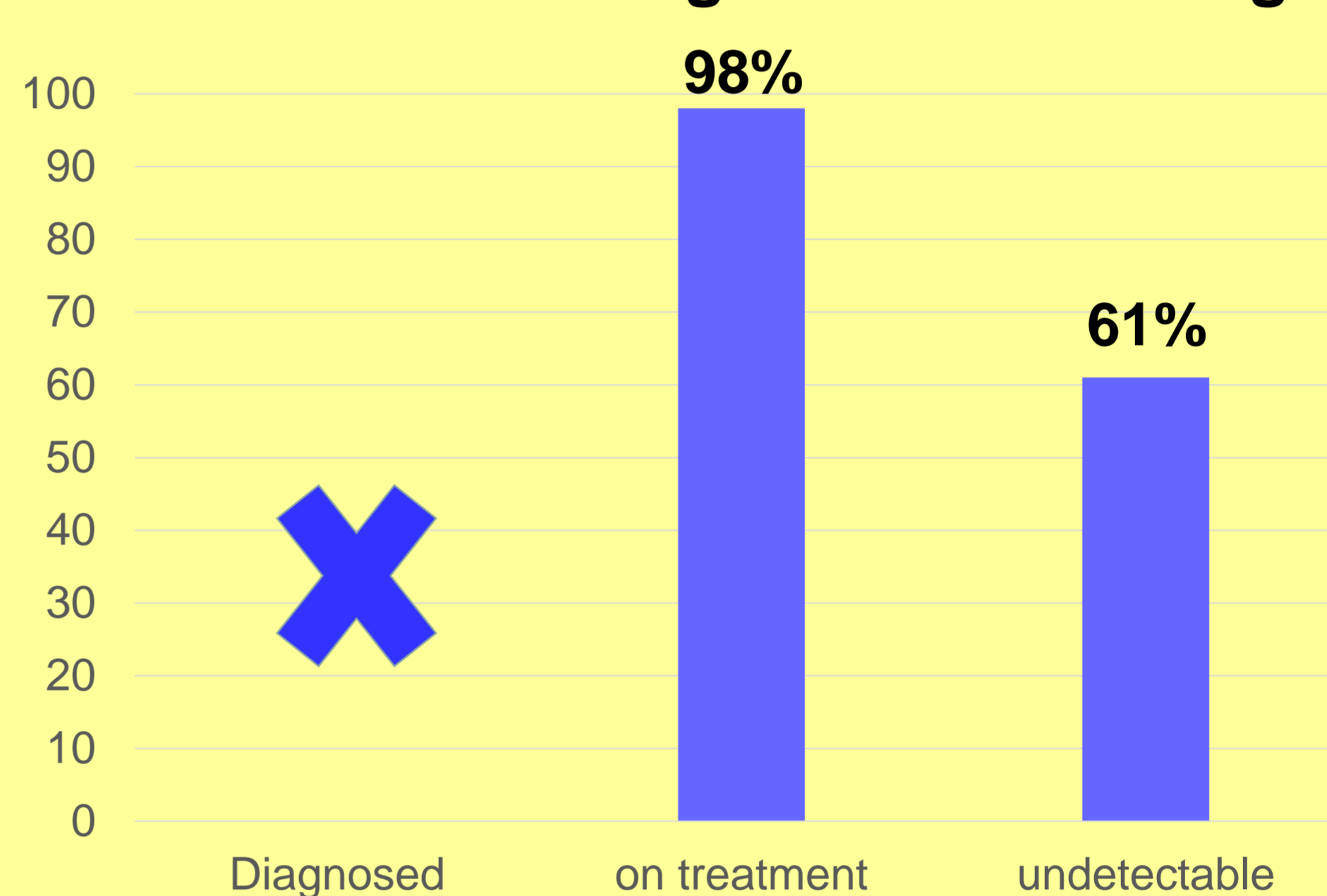
Results

Figure 1: Baseline Demographics and immunological status

N=57	
Age, median (range)	22 (17-32)
Male sex, n (%)	23 (40)
Black Africa/caribbean ethnicity, n (%)	51 (87)
Median age of transition from paediatric services, age (range)	17 (15-22)
CD4 count at last measurement (cells/µl), median (range)	489 (10-1034)
CD4 <200 (cells/µl), n (%)	7(12)
CD4 <50 (cells/µl), n (%)	4 (7)

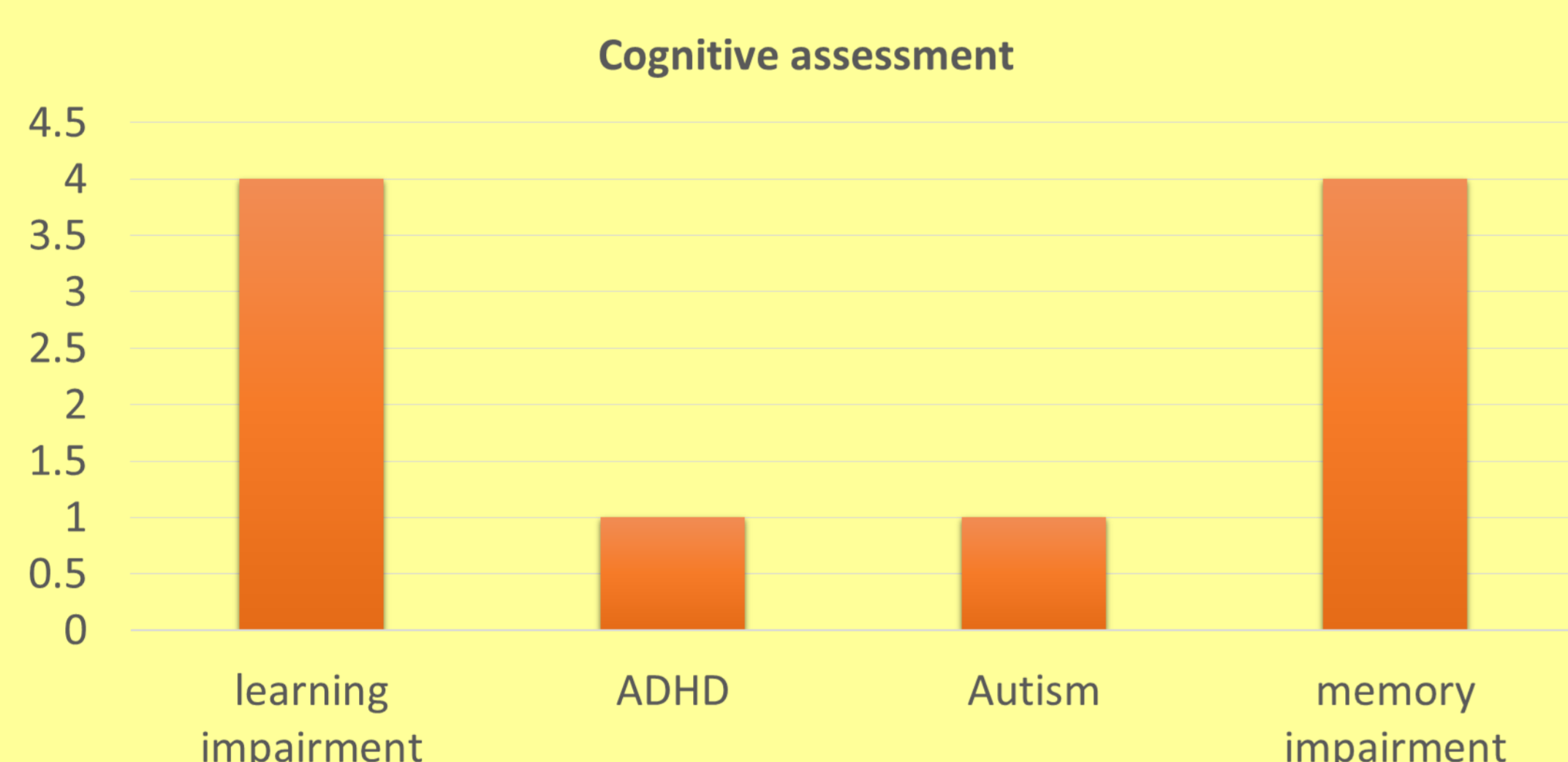
We identified 57 patients, with median age 22 (range 17-32), of whom 40% were male and 87% of black ethnicity (n=51). Median CD4 count at last measurement was 489 cells/µl however there is still a minority of patients significantly immunosuppressed.

Figure 2: Are we meeting our 90:90:90 targets?



Only 61% (n=35) had a VL<50 c/ml when last measured, 73% (n=42) VL<200 c/ml. This is significantly behind current national achievement's in the UK whereby in 2017 92% were diagnosed, 98% on treatment and 97% virally suppressed.

Figure 3: Psychiatric and psychological health

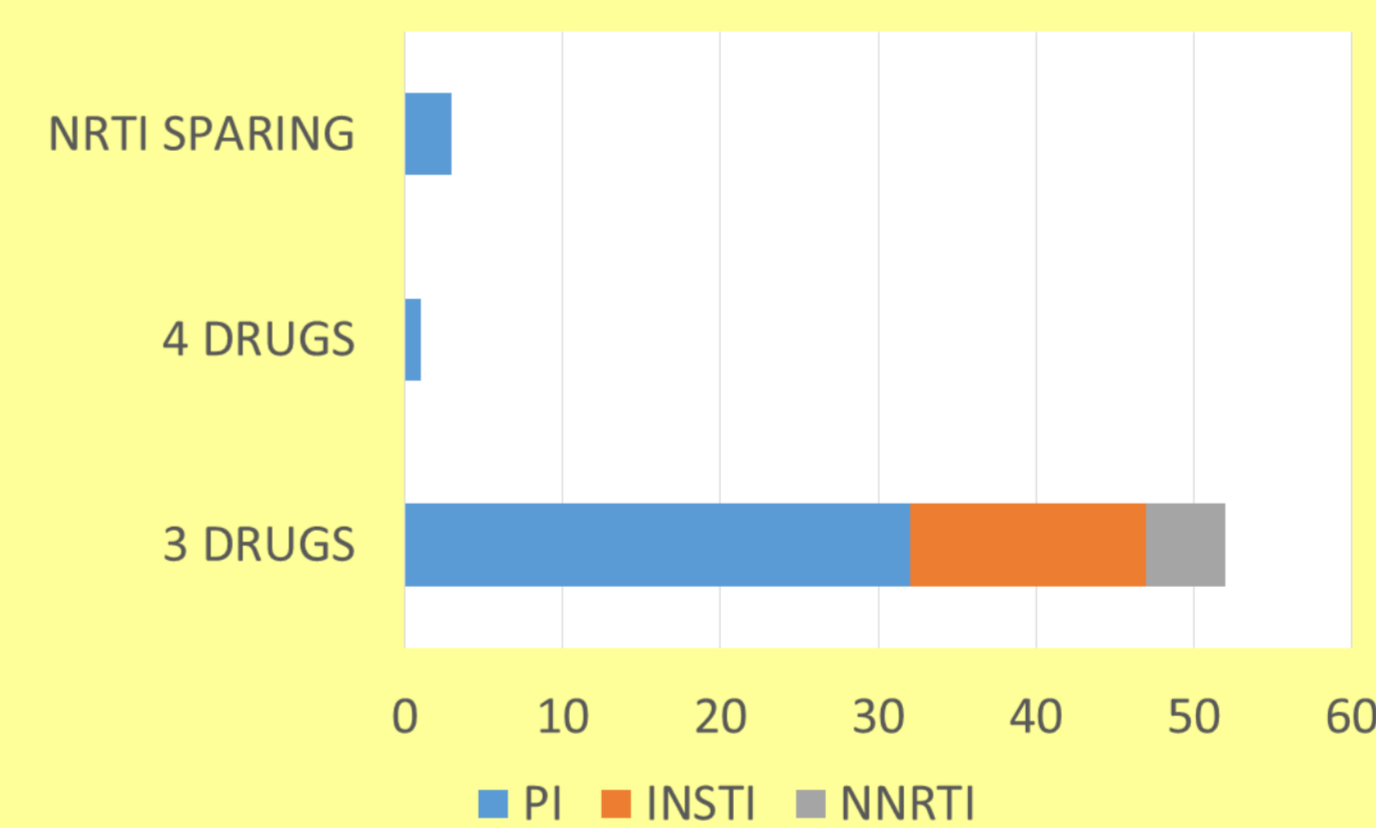


Of the 16 patients with a recorded cognitive assessment, we identified a high rate of morbidity: learning impairment (n=4), ADHD (n=1), autism (n=1) and memory impairment (n=4). Of 24 patients with a psychiatric assessment, 70% (n=17) had anxiety/depression, three had a history of suicide attempt or self-harm.

These factors along with other psychological and social issues can effect drug adherence and explains some of why there is this gap in virological efficacy in this population. Recent data show that a single tablet regimen can significantly improve virological outcomes³.

Figure 4: Antiretroviral Therapy and Resistance

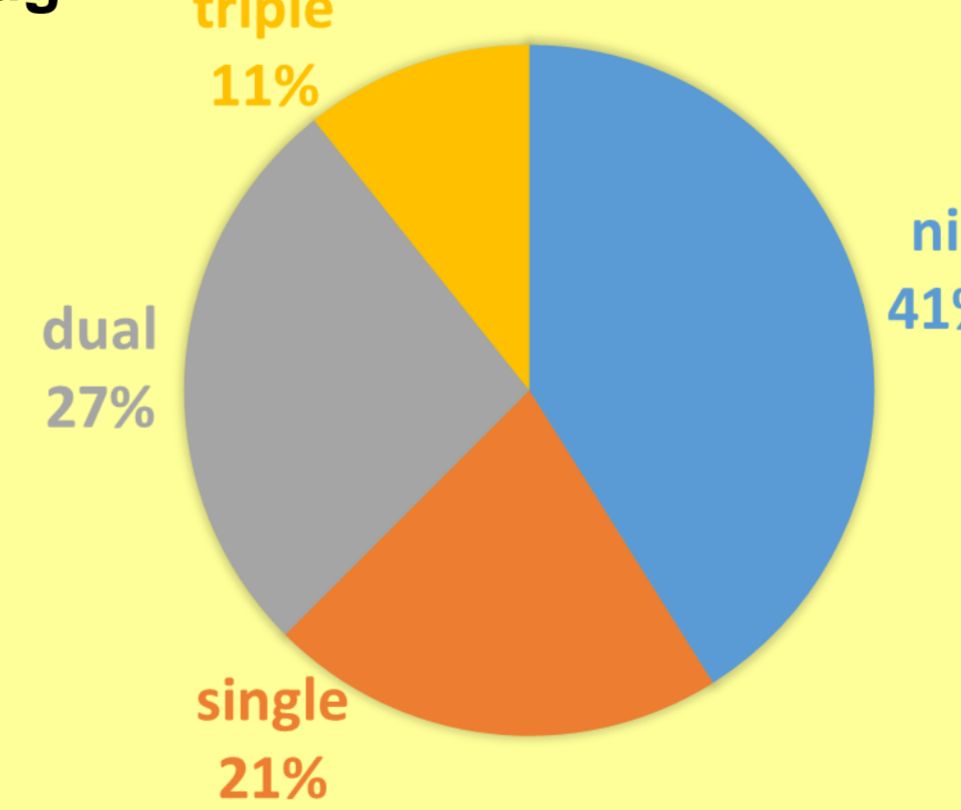
a: 92% on triple ART with a 2NRTIs. 3rd agent was PI in 60%



b: Of the NRTI sparing regimens, 2 patients on compassionate access injectable ART, both VL<50



c. 58% had genotypic resistance to at least one drug



d. Resistance associated mutations with NNRTI resistance: 69% sensitive to rilpivirine

Resistance	NNRTI RAM	number
sensitive	K103N, V108I, V106M	11
low level	179ED, 138A	3
intermediate	Y181C	1
high	G190E, L100IL	2

Only 23% (n=13) were on a single tablet regimen and 16% (n=9) were on a combination of TAF/FTC and darunavir/cobicistat and therefore potentially eligible for STR Symtuza. There were no documented INI resistance mutations. Of the 16 patients with NNRTI resistance, 11 (69%) were sensitive to rilpivirine and therefore potentially still eligible for long acting injectable therapy

Discussion

Our data add to a growing evidence that characterises this group as having poor virological control, complex resistance and psychiatric morbidity. Pill burden is an issue for many young people; our data show that despite resistance, most patients may be able to achieve virological suppression on injectable ART, and new STR Symtuza provides a ray of hope for those who need a PI.

References

1. HIV and adolescents: challenges and opportunities Davies, Mary-Ann⁸; Hamlyn, Elizabeth Current Opinion in HIV and AIDS: May 2018 - Volume 13 - Issue 3 - p 167–1692
2. Progress towards ending the HIV epidemic in the United Kingdom 2018 report – summary, key messages and recommendations, Public Health England 2018
- 3 Uptake and virological outcomes of single- versus multi-tablet antiretroviral regimens among treatment-naïve youth in the HIV Research Network. / for the HIV Research Network: HIV Medicine, 01.01.2018.