Financial Incentives and motivational interviewing for adolescents with advanced HIV disease; a pilot service

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Background

In the UK financial incentives (FIs) have been widely used in adolescent populations; from the Educational Maintenance Allowance, to improving uptake of Chlamydia screening[1,2]. Emerging evidence suggests FIs improve medication adherence in select populations[3].

A small proportion of adolescents with perinatally acquired HIV (PaHIV) transfer to adult services with longstanding poor adherence and advanced disease, despite intensive MDT support in paediatrics. This significantly raises the risk of death due to end stage HIV despite a treatable virus[4].

We describe a single centre experience combining FIs with motivational Interviewing (MI) to improve adherence.

Methods

The deaths of 2 young adults due to poor adherence, prompted MDT development of the "Incentive scheme (IS)" in consultation with service users demonstrating both poor and excellent adherence. IS was discussed with clinical and research ethics committees and designated a service intervention. From January 2010 eligible patients were offered the incentive scheme in addition to standard MDT adherence support.

Eligible patients: PaHIV age 16-25 years
CD4 count ≤200 cells/ul
Longstanding poor adherence despite MDT support
Off ART despite multiple attempts to start
Willing to start ART and to sign patient agreement

Incentive scheme: MI by psychologist/CNS at clinic visits
Gift vouchers dependent on viral load response

Figure 1.Incentive scheme MI/FI schedule - maximum FI £200/patient.

Started ART	VL response & attended for MI	Voucher value
Week 2	Fall in VL	£ 25
Week 4	Fall in VL	£ 25
Week 8-16	VL<50	£ 50
3 months suppressed	Sustained VL<50	£ 25
6 months suppressed	Sustained VL<50	£ 25
12 months suppressed	Sustained VL<50	£ 50
Total		**£ 200**

Results

- 11 young people enrolled, 1 declined.
- 8 female, 8 black african median age 19 years (range 16-23 yrs)
- previous ART regimens median 3 (range 2-9).

Figure 2. Individual patient response to Incentive Scheme at 1 year and at latest follow up (median 6 months post IS).

Pt	ART	Baseline CD4	Baseline VL	HIV VL <50 in 12 months	1 year CD4	1 year (+/-)	1 year VL	FI Total Value	Latest CD4
1	Ataz/r, Kivexa	30	14,090	x1(1/5)	40	+ 10	99,062	£75	20
2	DRV/r Truvada	200	634	sustained	560	+ 360	<50	£200	680 (<50)
3	DRV/r ETV RAL	160	12,000	x2 (2/5)	160	0	63,863	£100	Transferred
4	Atripla	10	3,635	sustained	200	+ 190	<50	£200	350 (<50)
5	Ataz/r, Kivexa	190	2,382	x2 (2/6)	230	+ 40	6,836	£75	110 (<50)
6	Kaletra Combivir	0	137	sustained	60	+ 60	<50	£200	60
7	DRV/r Truvada	50	159,627	x2 (2/6)	140	+ 90	99,985	£200	240 (<50)
8	DRV/r ETV RAL	10	46,628	sustained	120	+ 110	<50	£200	290 (<50)
9	Ataz/r Truvada	50	22,415	never	90	+ 40	105	£25	60
10	Kaletra Truvada	30	12,870	never	10	- 20	9,029	0	10
11	DRV/r Truvada	30	26,300	Intermittent (5/10)	140	+ 110	<50	£75	330 (<50)
All	BASELINE median CD4 30 (IQR 10-160) median VL 12,870 c/ml (IQR 2,382-26,300)			1 YEAR median CD4 140 (IQR 60-200)				TOTAL FI £1,350	

5/11 patients completed the full program in a median of 18 months (red)

- **9/11 ever achieved VL<50, 5 sustained at 1yr**
- **CD4 median increment of 110 cells at 1 yr**
- **Cost of £67 per 50 CD4 cells at 1 yr**
- **£44 per 50 CD4 cells at latest follow up, median 6/12 post IS**

Clinical outcomes:

- No deaths, 2 new AIDS diagnoses (PCP), 6 required admission
- 7 known to be sexually active; 4 partners ever tested, all negative. 1 pregnancy (delivery VL<50); uninfected infant.

Conclusion

Adolescents represent a particularly vulnerable group living with HIV and many struggle to overturn poor ART adherence set up in childhood. In our experience some young people die with treatable disease and novel adherence interventions are urgently needed.

This initial service pilot suggests that financial incentives, used widely in adolescent programs, may have a role in engaging some young people in discussions around adherence and supporting behaviour change (see Poster 225). In addition, improved viral control will limit the significant risk of onward transmission of HIV by untreated young people with high viral loads.

References

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