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Does Provision of Free HIV Self-testing Kits increase HIV Diagnosis in MSM?

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BACKGROUND

Reducing levels of undiagnosed HIV infection in men who have sex with men (MSM) remains key to reducing overall incidence, particularly in men who have condomless anal intercourse (CAI) with multiple partners. However, levels of HIV testing in UK MSM do not meet current testing recommendations with 28% never having tested and only 55% testing annually.[1, 2]

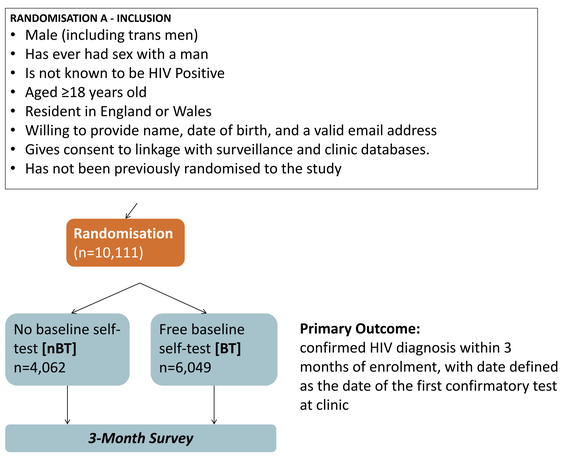
There is little evidence about the effectiveness of free HIV self-testing (HIVST) to increase HIV diagnosis rates in MSM. We aimed to assess if the offer of a single free HIVST kit led to increased diagnosis of HIV infections that linked to care.

METHODS

SELPHI is an internet based, open-label, randomized controlled trial that used online advertising to recruit men potentially interested in HIVST and which aims to assess effectiveness of free HIVST kits on HIV diagnosis rates.[3] Enrolment criteria were as listed in Figure 1. Participants were randomly allocated 3:2 at enrolment to a free HIVST (Baseline Test [BT]) versus no free HIVST (no Baseline Test [nBT]). Online surveys collected data at baseline, 2 weeks (2w) (BT only) and 3 months (3m) post-enrolment. Men in BT were asked about HIVST use and linkage to care if reactive.

Primary outcome was a confirmed new HIV diagnosis within 3m of enrolment, principally through linkage to national HIV surveillance databases maintained by Public Health England (PHE). Linkage to PHE databases was performed by PHE staff blinded to randomization allocation, with an algorithm determining the likelihood of the link. Secondary outcomes were self-reported on the follow-up surveys.

Figure 1: Trial Scheme



Low overall HIV prevalence and no significant difference in HIV diagnoses in a large online RCT between MSM randomized to receive an HIVST kit and those randomized to no kit

RESULTS

10,111 men were randomized (6049 BT; 4062 nBT); median age 33 years (IQR 26-44); 89% white; 20% born outside UK; 0.8% trans men; 47% degree educated; 15% never HIV tested; 8% ever and 4% currently on PrEP. At enrolment 89% reported AI and 72% CAI with ≥1 male partner in previous 3m, Table 1. 4194/4695 (89%) in BT reported using the HIVST kit. 4700 (78%) completed the 2-week or 3-month, and 4199 of those (89%) had used the HIVST kit.

There was no significant difference at 3m in confirmed new HIV diagnoses that had linked to care (primary outcome)(p=0.64, 19 [0.3%] in BT vs 15 [0.4%] in nBT), Table 2. Of those newly diagnosed, 22 men (13 BT, 9 nBT) had not tested for HIV in the previous 12 months. Men randomized to BT were more likely to self report that they had HIV tested in 3m after enrolment (97% vs 43%; risk ratio 2.27 95%CI 2.15, 2.41), but a higher proportion in nBT tested for HIV in the 3m after enrolment (42%) compared to 3m before (21%). Self reported STI testing rates between arms were similar (22% BT vs 25% nBT).

CONCLUSIONS

Reflecting national declines in MSM in the UK[4], which occurred after the study was planned, new HIV diagnoses were low in both arms by 3 months after enrolment, with no significant difference between men randomized to receive an HIVST kit (BT) and those who were not (nBT).

However, 34 previously undiagnosed HIV infections were detected across both groups and men randomized to nBT may have been motivated to HIV test through other routes in the 3 months after enrolment. In addition, HIV testing rates were overall higher in the 3 months after enrolment in those offered HIVST, with similar rates of STI screening though STI screening rates were lower than recommended in both groups.

References
1. McDaid LM, et al. . AIDS Care. 2014;26(3):297-303. 2. Witzel TC, et al. HIV testing history and preferences for future tests among gay men, bisexual men and other MSM in England: results from a cross-sectional study. BMJ open. 2016 Sep 1;6(9):e011372. 3. Gabriel MM, et al.. BMC Infect Dis. 2018. 18(1):531. 4. Brown AE et al. HIV Med. 2018 Jun 20. doi: 10.1111/hiv.12617

Table 1: Characteristics at baseline

	BT	nBT	Total
Randomised	N=6049	N=4062	N=10111
Median (IQR) age (years)	33 (26, 44)	33 (26, 44)	33 (26, 44)
Trans man	47 (1%)	34 (1%)	81 (1%)
Born in the UK	4849 (80%)	3269 (80%)	8118 (80%)
White	5347 (88%)	3653 (90%)	9000 (89%)
Highest educational qualification			
Education to 16 or 18 years age	2474 (41%)	1694 (42%)	4168 (42%)
Education after !8 years age	645 (11%)	474 (12%)	1119 (11%)
University	2854 (48%)	1852 (46%)	4706 (47%)
Sexual orientation			
Gay	4097 (68%)	2839 (70%)	6936 (69%)
No answer provided	1316 (22%)	805 (20%)	2121 (21%)
Other	636 (11%)	418 (10%)	1054 (10%)
Last HIV test			
<3 months	989 (17%)	706 (18%)	1695 (17%)
3-12 months	2250 (38%)	1471 (36%)	3721 (37%)
>1 year	1813 (30%)	1248 (31%)	3061 (31%)
Never	929 (16%)	608 (15%)	1537 (15%)
Last STI test			
<3 months	896 (15%)	631 (16%)	1527 (15%)
3-12 months	1814 (30%)	1225 (30%)	3039 (30%)
>1 year	2090 (35%)	1386 (34%)	3476 (35%)
Never	1223 (20%)	797 (20%)	2020 (20%)
No of CAI partners in previous 3 months			
0	1716 (28%)	1112 (28%)	2828 (28%)
1	2000 (33%)	1330 (33%)	3330 (33%)
2-4	1745 (29%)	1198 (29%)	2943 (29%)
5+	587 (10%)	422 (10%)	1009 (10%)
Currently taking PrEP	241 (4%)	148 (4%)	389 (4%)

Table 2: Outcome measures at 3 months

	BT	nBT	Total	p-value
Randomised	N=6049	N=4062	N=10111	
Diagnosed with HIV	19 (0.3%)	15 (0.4%)	34 (0.3%)	0.64
Completed 3m survey	4041 (67%)	1566 (39%)	5607 (55%)	
	N=4511	N=1574	N=6085	
Reporting any HIV test	4368 (97%)	670 (43%)	5038 (83%)	<0.001
Number reporting >1 HIV test	940 (22%)	125 (19%)	1065 (21%)	0.10
Reporting using any self-test kit	4266 (95%)	89 (6%)	4355 (72%)	<0.001
	N=4028	N=1563	N=5591	
Reporting a STI test	903 (22%)	397 (25%)	1300 (23%)	0.02
	N=4039	N=1566	N=5605	
Any condomless sex partners	2542 (63%)	927 (59%)	3469 (62%)	0.01
Number of condomless sex partners	N=2542	N=927	N=3469	
1	1292 (51%)	451 (49%)	1743 (50%)	
2-4	543 (21%)	187 (20%)	730 (21%)	
5+	319 (13%)	148 (16%)	467 (13%)	

ADDITIONAL INFORMATION

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