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Determinants of never having tested for HIV among MSM in the Netherlands

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Objectives

- People who have never tested for HIV can be seen as the ultimate unaware group, assuming that at least some of them have been at risk for HIV.
- In the Netherlands, 70% of all new HIV cases are diagnosed among MSM. The proportion of MSM unaware of their HIV infection was 31% in 2012.
- To improve HIV testing, it is crucial to identify characteristics of MSM who were never tested for HIV.

Methods

- Data from the European MSM Internet Survey (EMIS) became first available in 2011 and included demographics, sexual behaviour, and psychosocial factors related to sexual health among MSM in 38 countries.
- We analyzed data from the Dutch sample (n=3,787) of EMIS. Uni- and multivariable logistic regression analyses were conducted to investigate associations between 'never having been tested for HIV' and demographic, psychosocial, and behavioral factors.

Results

- A total of 774 MSM (20.5%) had never been tested for HIV. Of those 36.1% reported UAI with a male partner of unknown or discordant status < 12 months, and 15.6% is HIV positive.
- *Demographics* associated with 'never tested for HIV' were: non-Amsterdam residence (aOR 1.5 CI 1.2-2.0 vs Amsterdam), lower education (1.3 CI 1.04-1.6 vs high), and lower knowledge on HIV testing (2.2 CI 1.4-3.6 vs high) (Table 1).
- *Behavioural variables* associated with 'never tested for HIV' were: <5 years of sexual activity (2.0 CI 1.6-2.7 vs > 5 years), number of sexual partners < 12 months (zero: 2.2 CI 1.6-3.0 vs >10), no anal intercourse (AI) ever (6.0 CI 3.0-11.8 vs yes), no sex abroad <12 months (1.6 CI 1.3-2.0 vs yes), no self-reported STIs< 12 months (8.6 CI 4.7-15.6 vs yes), no sex/party drugs (2.1 CI 1.6-2.8 vs yes<12 months).
- Finally, less *social engagement* was associated with having never been tested: No outness (or 'being closeted')(1.9 CI 1.6-2.4 vs out), not visiting social venues (1.9 CI 1.4-2.7), and having fewer gay friends (1.8 CI 1.3-2.6 vs most are gay).

Conclusions

- MSM who are more assimilated into the gay community seem less likely to never be tested for HIV.
- Perceived higher sexual risks in the recent past decreased the odds to never be tested for HIV; suggesting that MSM make their own risk assessments that inform their choices about HIV testing.
- Nevertheless, MSM who were never tested may have been at risk for HIV (36% reported UAI with a male partner of unknown/discordant status < 12 months) and remain important to target for HIV interventions.
- Interventions should encourage regular HIV testing for all sexually active MSM.

Table 1. Characteristics of MSM (N = 3,787) who ever and who never tested for HIV in the Netherlands

	Ever tested N (%)	Never tested N (%)	OR [95% CI]	aOR [95% CI]
Age (years)				
>40	1539 (51.4)	289 (37.3)	1	ns
25-39	1205 (40.2)	266 (34.4)	1.18 [0.98-1.41]	
<25	253 (8.4)	219 (28.3)	4.61 [3.70-5.75]	
Residence				
Amsterdam	858 (32.8)	95 (14.0)	1	1
Other	1759 (67.2)	586 (86.0)	3.01 [2.39-3.79]	1.54 [1.17-2.03]
Country of birth				
Netherlands	2198 (75.2)	623 (81.5)	1	ns
Other	723 (24.8)	141 (18.5)	0.69 [0.56-0.84]	
Education level				
High*	1034 (34.7)	367 (47.7)	1	1
Low / Medium	1950 (65.3)	403 (52.3)	2.07 [1.76-2.43]	1.28 [1.04-1.57]
Knowledge on HIV-testing				
High**	2941 (98.2)	703 (90.9)	1	1
Low / Moderate	53 (1.8)	70 (9.1)	5.53 [3.83-7.97]	2.23 [1.37-3.64]
Knowledge on HIV-transmission				
High	2664 (88.9)	626 (80.9)	1	ns
Low / Moderate	331 (11.1)	148 (19.1)	1.90 [1.54-2.35]	
Sexual identity				
Gay/homosexual	2685 (89.9)	586 (75.8)	1	ns
Bisexual /other	301 (10.1)	187 (24.2)	2.85 [2.32-3.49]	
Sexual active				
>5 years	2551 (90.6)	436 (71.9)	1	1
<5 years	266 (9.4)	170 (28.1)	3.74 [3.01-4.65]	2.03 [1.55-2.66]
Outness to nearly everybody				
Out	2267 (76.0)	400 (51.9)	1	1
Not out	716 (24.0)	371 (48.1)	3.41 [2.90-4.02]	1.93 [1.55-2.40]
Proportion of gay friends				
Most	685 (22.9)	79 (10.2)	1	1
Some	1837 (61.5)	370 (48.0)	1.75 [1.35-2.26]	1.22 [0.91-1.64]
Few	463 (15.5)	322 (41.8)	6.03 [4.59-7.92]	1.85 [1.32-2.59]

	Ever tested N (%)	Never tested N (%)	OR [95% CI]	aOR [95% CI]
Sexual partners in last 12 months				
>10	1064 (36.0)	126 (16.6)	1	1
6-10	488 (16.5)	84 (11.1)	1.45 [1.08-1.96]	1.42 [1.01-2.00]
2-5	749 (25.3)	209 (27.5)	2.36 [1.85-3.00]	1.70 [1.26-2.28]
1	158 (5.3)	77 (10.1)	4.12 [2.96-5.72]	2.03 [1.33-3.11]
0	498 (16.8)	264 (34.7)	4.48 [3.53-5.68]	2.19 [1.57-3.04]
AI ever				
Yes	2932 (98.5)	633 (88.0)	1	1
No	44 (1.5)	85 (11.8)	9.05 [6.23-13.15]	6.00 [3.05-11.79]
UAI* **				
Yes	787 (26.7)	274 (36.1)	1	1
No	2095 (71.1)	381 (50.1)	0.52 [0.44-0.62]	0.26 [0.21-0.32]
No sex with men	64 (2.2)	105 (13.8)	4.71 [3.35-6.62]	0.60 [0.35-1.02]
Visit to social venues				
Ever	2866 (95.9)	587 (75.9)	1	1
Never	121 (4.1)	186 (24.1)	7.51 [5.87-9.59]	1.94 [1.39-2.71]
Visit to sex venues				
Ever	2581 (86.4)	479 (62.0)	1	ns
Never	406 (13.6)	294 (38.0)	3.90 [3.26-4.67]	
Sex abroad in the last 12 months				
Yes	2307 (77.8)	342 (48.1)	1	1
No	657 (22.2)	369 (51.9)	3.79 [3.19-4.49]	1.56 [1.25-1.96]
Sex/ party drugs** **				
Yes < 12 months	923 (31.0)	86 (11.2)	1	1
Yes ever	378 (12.7)	52 (6.8)	1.48 [1.03-2.13]	1.38 [0.91-2.09]
No	1681 (56.4)	627 (82.0)	4.00 [3.15-5.09]	2.06 [1.55-2.75]
STI diagnosis in the last 12 months				
Yes	516 (17.3)	14 (1.8)	1	1
No	2462 (82.7)	753 (98.2)	11.27 [6.59-19.29]	8.55 [4.69-15.61]

* High education = tertiary education (ISCED-1997 levels 5 and 6)
** High knowledge = Men stating to have already known at least 4 of 5 true statements on HIV-testing, or respectively, HIV-transmission
*** UAI with any male partners of unknown or discordant HIV serostatus in the last 12 months
**** Use of sex and party drugs (i.e., ecstasy, amphetamine, crystal meth, mephedrone, GHB/GBL, ketamine, cocaine)

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