

Supplementary Material

Factors associated with self-reported hepatitis B virus vaccination status among men who have sex with men in the Netherlands

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Table S1. Characteristics of participants who were not vaccinated (N = 1,052, including people who did not know their vaccination status), partly vaccinated, and fully vaccinated against Hepatitis B, in a 2018 online study of MSM in the Netherlands.

		Not vaccinated		Partly vaccinated		Fully vaccinated		Chi-square test
		N	%	N	%	N	%	
Total		1,052	24.5	652	15.3	2,566	60.1	
Demographic characteristic								
Age in years	16-24	486	46.2	248	38.0	674	26.3	χ^2 (6) = 156.94, p < .001
	25-34	160	15.2	120	18.4	626	24.4	
	35-49	182	17.3	156	23.9	674	26.3	
	>50	224	21.3	128	19.6	592	23.1	
Education ^a	High	605	57.5	456	69.9	1,795	70.0	χ^2 (2) = 55.40, p < .001
	Low/Middle	447	42.5	196	30.1	771	30.0	
Place of residence	Amsterdam	78	7.4	83	12.7	427	16.6	χ^2 (4) = 74.61, p < .001
	Rotterdam	32	3.0	35	5.4	158	6.2	
	Other/Unknown	942	89.5	534	81.9	1,981	77.2	
Urbanisation level	Very high	336	35.0	292	47.0	1,211	49.4	χ^2 (8) = 62.39, p < .001
	High	276	28.7	152	24.5	567	23.1	
	Moderately	137	14.3	78	12.6	294	12.0	
	Minor	120	12.5	57	9.2	201	8.2	
	Not	91	9.5	42	6.8	177	7.2	
Migration background	Dutch	861	81.8	489	75.0	2,127	82.9	χ^2 (4) = 27.24, p < .001
	Western	62	5.9	67	10.3	187	7.3	
	Non-western	129	12.3	96	14.7	252	9.8	
Sexual orientation	Homosexual	817	77.7	567	87.0	2,297	89.5	χ^2 (2) = 88.56, p < .001
	Bisexual/other	235	22.3	85	13.0	269	10.5	
Sexual Health and Behaviours								
HIV status and PrEP use	HIV+	38	3.6	40	6.1	198	7.7	χ^2 (6) = 742.50, p < .001
	HIV- PrEP	5	0.5	11	1.7	135	5.3	
	HIV- no PrEP	507	48.2	504	77.3	1,994	77.7	
	Never HIV tested	502	47.7	97	14.9	239	9.3	
STI in the past 6 months	Yes	68	6.5	120	18.4	561	21.9	χ^2 (2) = 122.72, p < .001
	No	984	93.5	532	81.6	2,005	78.1	
Anal intercourse with steady partners in the past 6 months	Yes	539	51.7	357	54.8	1,489	58.2	χ^2 (2) = 13.03, p = .001
	No	503	48.3	294	45.2	1,070	41.8	
Anal intercourse with one-night stands in the past 6 months	Yes	337	35.0	309	49.4	1,372	54.7	χ^2 (2) = 108.61, p < .001
	No	626	65.0	316	50.6	1,134	45.3	
Anal intercourse with Fuckbuddies in the past 6 months	Yes	330	34.3	295	47.2	1,219	48.6	χ^2 (2) = 59.46, p < .001
	No	633	65.7	330	52.8	1,287	51.4	
Sexual active	< 5 years	340	35.5	156	26.2	376	16.7	χ^2 (2) = 138.68, p < .001
	>5 years	619	64.5	439	73.8	1,878	83.3	

Number of partners in the past 6 months	> 10	71	6.8	97	14.9	553	21.7	$\chi^2 (8) = 302.56, p < .001$
	6-10	74	7.1	103	15.8	447	17.5	
	2-5	358	34.4	224	34.4	841	32.9	
	1	375	36.0	178	27.3	578	22.6	
	0	164	15.7	49	7.5	135	5.3	
Condomless anal intercourse in the past 6 months ^b	Yes	473	49.1	367	58.7	1,620	64.6	$\chi^2 (2) = 70.51, p < .001$
	No	490	50.9	258	41.3	886	35.4	
Sex abroad in the past 6 months	Yes	114	15.6	133	24.7	626	28.5	$\chi^2 (2) = 48.76, p < .001$
	No	619	84.4	405	75.3	1,573	71.5	
Use of sex and party drugs during or before sex in the past 6 months ^c	Yes	89	10.3	112	19.4	609	26.4	$\chi^2 (2) = 98.44, p < .001$
	No	778	89.7	465	80.6	1,701	73.6	
Alcohol consumption during or before sex in the past 6 months ^a	Yes	544	62.7	404	70.0	1,669	72.3	$\chi^2 (2) = 27.01, p < .001$
	No	323	37.3	173	30.0	641	27.7	
Exposed to health education or information in the past 6 months	No	240	23.5	92	14.4	309	12.2	$\chi^2 (4) = 114.49, p < .001$
	Yes, about HBV	91	8.9	139	21.8	455	17.9	
	Yes, about other topics	692	67.6	406	63.7	1,774	69.9	
Ever tested for HBV	No	507	48.2	143	21.9	480	18.7	$\chi^2 (4) = 706.67, p < .001$
	Yes negative	253	24.0	418	64.1	1,837	71.6	
	I don't know	292	27.8	91	14.0	249	9.7	

HBV indicates Hepatitis B virus; MSM, men who have sex with men; STI, sexually transmitted infection; PrEP, pre-exposure prophylaxis.

^a High education = higher general education (Dutch: HAVO/VWO) and higher education (Dutch: HBO, University, and post academic education), Low/Middle education = all others

^b Condomless AI with steady partners, casual partners, and one-night stands in the last 6 months

^c Use of sex and party drugs (i.e., ecstasy, amphetamine, crystal meth, mephedrone, GHB/GBL, ketamine, cocaine).

Table S2. Multinomial regression of characteristics associated with being unvaccinated (including I don't know) or partly vaccinated as compared to fully vaccinated against Hepatitis B in a 2018 online survey of MSM in the Netherlands.

		Not vaccinated vs. Fully vaccinated (Reference)			Partly vaccinated vs. Fully vaccinated (Reference)		
		aOR	95% CI		aOR	95% CI	
			Upper	Lower		Upper	Lower
Demographic characteristics^c							
Age in years	16-24	1			1		
	25-34	0.80	0.60	1.05	0.65	0.49	0.85
	35-49	0.88	0.66	1.16	0.89	0.67	1.17
	>50	1.08	0.82	1.44	0.81	0.61	1.09
Education ^a	High	1			1		
	Low/Middle	1.41	1.17	1.69	0.97	0.80	1.18
Place of residence	Amsterdam	0.67	0.50	0.91	0.78	0.59	1.02
	Rotterdam	0.66	0.42	1.04	0.81	0.55	1.20
	Other/Unknown	1			1		
Migration background	Dutch	1			1		
	Western	0.83	0.58	1.19	1.62	1.20	2.21
	Non-western	1.60	1.21	2.12	1.73	1.32	2.26
Sexual orientation	Homosexual	0.70	0.55	0.88	0.92	0.70	1.21
	Bisexual/other	1			1		
Sexual Health and Behaviours^e							
HIV status and PrEP use	HIV+	1			1		
	HIV- prep	0.35	0.13	0.94	0.47	0.23	0.96
	HIV- no prep	0.76	0.50	1.14	1.06	0.72	1.54
	Never tested	2.35	1.48	3.73	1.31	0.82	2.11
STI ^a	Yes	1			1		
	No	1.99	1.46	2.72	1.03	0.81	1.31
Anal intercourse steady partners in the past 6 months	Yes	1			1		
	No	1.37	1.14	1.65	1.11	0.92	1.34
Years since sexual debut	< 5 years	1.08	0.83	1.41	1.19	0.90	1.56
	>5 years	1			1		
Number of partners in the past 6 months	> 10	1			1		
	6-10	1.08	0.73	1.60	1.07	0.78	1.47
	2-5	1.70	1.23	2.36	1.12	0.84	1.49
	1	2.19	1.54	3.11	1.25	0.91	1.73
	0	2.66	1.77	3.98	1.32	0.86	2.02
Sex and party drugs during or before sex in the past 6 months ^b	Yes	1			1		
	No	1.48	1.12	1.96	1.18	0.92	1.51
Exposed to health education or Information in the past 6 months	No	1			1		
	Yes, HBV vaccination	0.52	0.38	0.72	1.16	0.85	1.58
	Yes, other topics	0.89	0.71	1.12	0.90	0.69	1.17
Ever tested for HBV	No	1			1		
	Yes negative	0.26	0.21	0.32	0.93	0.73	1.17
	I don't know	1.54	1.21	1.96	1.37	0.99	1.88

Bold printed statistics differ significantly (p-value < .05). aOR indicates adjusted odds ratio; CI, confidence interval; HBV, Hepatitis B virus; MSM, men who have sex with men; PrEP, pre-exposure prophylaxis; STI, sexually transmitted infections.

^a High education = higher general education (Dutch: HAVO/VWO) and higher education (Dutch: HBO, University, and post academic education), Low/Middle education = all others

^b Use of sex and party drugs (i.e., ecstasy, amphetamine, crystal meth, mephedrone, GHB/GBL, ketamine, cocaine).

^c Demographic variables that were removed in the backward elimination was Urbanization level.

^d Sexual Health and Behaviour variables that were removed in the backward elimination were Anal intercourse with one-night stands in the past 6 months, Anal intercourse with Fuckbuddies in the past 6 months, Condomless anal intercourse in the past 6 months, Sex abroad in the past 6 months, and Alcohol consumption during or before sex in the past 6 months.