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First Anal Intercourse and Condom Use Among Men Who Have Sex with Men in Switzerland

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Abstract The aim of this study was to analyze the circumstances of first anal intercourse (FAI) among men who have sex with men (MSM) and to identify factors associated with condom use at this event. We conducted a cross-sectional survey among a convenience sample of MSM living in Switzerland ($N = 2,200$). Anonymous questionnaires were distributed using Swiss gay communication channels (newspapers, associations, websites) and gay bathhouses. We gathered data on age at FAI, age of the partner, degree of familiarity with him, place of first meeting, and sociodemographic indicators. We did not ask whether FAI was insertive, receptive, or both. Data were stratified by birth year classes (birth cohorts). The median age at FAI fell from 24.5 years among men born before 1965 to 20.0 years among those born between 1975 and 1984 ($p < .001$). In each birth cohort, between 20 and 30% reported a partner 10 years older or more. Of eight variables examined in multivariate analysis, two were positively associated with condom use: age of participants at FAI and low degree of familiarity between partners. Conversely, large age discrepancy between partners was negatively associated with condom use. In conclusion, our data showed that early initiation of anal intercourse and large age discrepancy were associated with risk taking: a pattern of initiation that may facilitate HIV transmission from older to younger cohorts of MSM. Since age at FAI is on the decrease, there is an urgent need to heighten awareness of prevention actions regarding sexual debut of MSM.

Keywords HIV · Homosexuality · Sexual behavior · Sexual intercourse · Condoms

Introduction

Few epidemiological data are available on the sexual debut of men who have sex with men (MSM), whereas this topic has been surveyed in the context of heterosexual relations, particularly in the HIV/AIDS era (Bozon & Kontula, 1998; Mercer et al., 2006; Narring, Wydler, & Michaud, 2000). There is, however, compelling evidence that, for MSM, this event occurs in a period of life potentially marked by important psychosocial difficulties, induced in Western countries by a persisting social homophobia (Flowers & Buston, 2001; Hefez, 2003; Igartua, Gill, & Montoro, 2003; Remafedi, 1999, 2002; Schiltz, 1998).

The onset of the sexual career of MSM is at odds with heterosexual modes of sexual debut. Given the stigma associated with the coming out process (Fassin, 2000; Kosofsky Sedgwick, 1990), the low prevalence of homosexuality in the general population (Narring, Stronski Huwiler, & Michaud, 2003; Sandfort, 1998), and consequently the low density of potential sexual partners, young men attracted to men have a reduced chance of finding a sexual partner among acquaintances. A representative survey of young French people showed, for example, that two thirds of men attracted to men did not know anyone with the same sexual preference (Lhomond, 1997). As a consequence, among MSM, first same-sex sexual experience—which is not necessarily a penetrative one (Lhomond, 1997)—frequently occurred with a partner who had been encountered beyond traditional circles of sociability, often much older and presumably more experienced (Lhomond, 1997; Messiah & Mouret-Fourne, 1996; Richard & Guillemot, 1996; Rosario, Meyer-Bahlburg, Hunter, & Gwadz, 1999). There is, moreover, a lack of knowledge of the effect that the development of gay dating

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websites on the Internet (Davis, Hart, Bolding, Sherr, & Elford, 2006; Hoppers, Harterink, Van Den, & Veenstra, 2002; Hoppers, Kok, Harterink, & de Zwart, 2005; Ross, Tikkanen, & Mansson, 2000) may have had on the pattern of sexual debut of MSM.

First anal intercourse (FAI) may be accompanied by an elevated risk of acquiring HIV by not using condoms. First, a large age discrepancy between sexual partners may facilitate transmission of HIV between cohorts. In most European countries, HIV prevalence percentages are, in fact, notably higher among men over 30 than among their younger counterparts (European Centre for the Epidemiological Monitoring of AIDS, 2002). In Switzerland, self-reported HIV prevalence among MSM in 2004 was 2% among men under 30, and 10% among older men (Balthasar, Jeannin, & Dubois-Arber, 2005). Second, a large age discrepancy between partners may include power differentials (Mercer et al., 2006; Miller, Clark, & Moore, 1997).

This article presents the analysis of a specific set of questions on circumstances surrounding FAI, inserted in the last wave of a regularly repeated survey conducted among MSM in Switzerland (Balthasar, Jeannin, & Dubois-Arber, 2007; Dubois-Arber, Jeannin, & Spencer, 1999; Moreau-Gruet, Dubois-Arber, & Jeannin, 2006). It focuses on characteristics associated with FAI, such as age of participant at this event, estimated age of partner, age difference and degree of familiarity between partners, place of first meeting, and condom use on this occasion.

Method

Participants

Among 2,259 participants, 59 were excluded from analysis: those who had never had any sexual experience with a man ($n = 44$) and those who did not report their age ($n = 8$). Seven participants who reported that they had initiated anal intercourse at an age under 10 were excluded because we could not ascertain whether the reported age was a clerical error at data entry. We analyzed data from a sample of 2,200 participants.

The average age was 35.3 years. Two thirds (65.3%) of the participants were ≥ 30 years of age; 29.6% were 20–29 years; 5.1% were adolescents. The educational level was quite high: 32.5% of participants aged 25–65 had attended university as compared with 23% in the general male population of the same age (Office fédéral de la statistique, 2002). The majority of participants (69.7%), as expected, lived in the German-speaking part of Switzerland, 24.6% in the French-speaking part and 2.3% in the Italian-speaking region; 42.3% lived in agglomerations with more than 100,000 inhabitants.

Measures and Procedure

We collected anonymous self-reported data in 2004 in the context of a questionnaire survey on sexual and preventive behaviors. This has been regularly conducted since 1987 among MSM living in Switzerland as part of HIV behavioral surveillance (Balthasar et al., 2007; Dubois-Arber et al., 1999; Moreau-Gruet et al., 2006).

The questionnaire—described elsewhere (Moreau-Gruet et al., 2006)—gathered information on sociodemographic characteristics, sexual activity, and preventive behaviors. It included items such as age at first homosexual intercourse, age at first heterosexual intercourse, sexual practices, and condom use in the 12 months preceding the survey. Five items focused retrospectively on the circumstances of FAI. Participants were asked to report their age and the estimated age of their partner at this event, with the following questions: “*How old were you at the time of your first anal penetration with a man?*” and “*How old was your partner (or estimate his age) at this first anal penetration?*”. They were also asked how well they knew their partner (degree of familiarity), where they met for the first time (place of first meeting), and whether they used condoms or not at FAI. Despite the fact that HIV risk exposure is significantly higher in case of receptive anal penetration compared to insertive sex (Varghese, Maher, Peterman, Branson, & Steketee, 2002; Vittinghoff et al., 1999), we did not distinguish the two positions. This was for two reasons: first, this distinction was never made elsewhere in the questionnaire (to keep the historical wording of the trend indicators); second, space was restricted for this module in the questionnaire.

The questionnaire was distributed between June and November 2004 throughout the country through several channels that we identified with the assistance of gay community leaders and gay organizations: a paper-and-pencil questionnaire was inserted in the five gay newspapers published in Switzerland (22.0% of returned questionnaires), mailed by almost all gay organizations to their members (22.4%), distributed in almost all gay bathhouses (3.4%) and in other or unknown channels (3.7%). For the first time in 2004, participants could also complete the questionnaire on the Internet (48.6%). The online version was announced with banners published on the seven most visited gay websites (webzines and chatrooms) within the Switzerland Internet domain (“.ch”).

The questionnaire was reviewed by the Swiss Federal Office of Public Health and the Swiss AIDS Foundation. Purpose of the study and utilization of results were explained in the questionnaire. Participants gave their informed consent de facto by completing the questionnaire and returning it.

Data Analysis

Data were stratified by birth year classes (birth cohorts). The composition of the cohorts was based on the age of the

participants by the time of the survey (2004). It corresponds to a standard age classification (1989–1984: 15–19 years in 2004; 1984–1975: 20–29; 1974–1965: 30–39; before 1965: ≥ 40).

Data were analyzed with StataTM 8.2. We first did a descriptive analysis of FAI circumstances among the four birth cohorts and then performed a logistic regression on each birth cohort to identify factors associated with condom use at FAI. Participants born before 1965, or who had FAI before 1985 (year of emergence of HIV/AIDS as a public problem in many European countries (Rosenbrock et al., 2000)) or who did not recall whether condoms were used or not, were excluded from this analysis. Six variables with time frame relevant to FAI were included in the model as independent factors: age at FAI, birth cohort, place of first meeting, age difference between partners, degree of familiarity, heterosexual intercourse in the same year or prior to the event of interest. We also added in the model current educational level and current residence area (German vs. French and Italian speaking part of Switzerland) as proxies for participant's sociocultural background at the time of FAI.

In order to take into account the cluster survey design, the logistic regression was performed with the StataTM survey command. The distribution channels were considered as clusters. Statistical significance of trends across cohorts was evaluated using the StataTM nptrend command (non-parametric test), rank tests for medians, and 95% confidence intervals (CI) for proportions. Pearson chi-square was calculated in bivariate analysis with 95% confidence level.

Results

Age at FAI and Estimated Age of the Partner

The large majority of participants had already experienced anal intercourse with a male partner (92.6%). The proportion of experienced participants increased according to birth cohort (1985–1989: 84.1%; 1975–1984: 90.8%; 1965–1974: 93.9%; 1964 or before: 93.9%).

Median age at FAI was 21.0 years ($SD = 7.26$). It decreased according to birth cohorts: from 24.5 years ($SD = 9.32$) among men born before 1965, to 20 years ($SD = 3.29$) among those born between 1975 and 1984. The trend was, however, partially confounded by a right-censored cohort effect (Lawless, 2003).

First anal intercourse was likely to have occurred with an older partner, whose median age amounted to 25 years ($SD = 7.92$) (Table 1). Age difference between partners was significantly associated with age at FAI. Participants who reported a younger partner initiated anal intercourse late, at an average age of 33.0 ($SD = 8.29$). Inversely, men who reported a partner much older than themselves (10 years or more) initiated anal intercourse at a mean age of 19.3 ($SD = 4.76$). Among participants who reported a partner of the same age or a partner

older (4–9 years), age at FAI was 22.3 years ($SD = 5.76$) and 21.3 years ($SD = 4.82$), respectively (data not shown).

Figure 1 shows for each birth cohort the average age of the partner by age at FAI. Although the partner's age varied very widely, especially in the case of early FAI, the average age remained between 20 and 30 years. It tended to rise in the case of a late initiation.

Among participants with early age at FAI, large age discrepancy between partners may have decreased over time. Among participants of each birth cohort, who had FAI before the age of 20, the proportion of those who reported a partner much older (10 years and more) decreased progressively over time. This situation was reported by 44% of men born before 1964, 37% of men born between 1965 and 1975, 34% of the birth cohort 1975–1984, and 32% of younger men ($p < .05$) (data not shown).

Overall, 5% of participants reported having initiated anal intercourse with an adult (over 18) while they were themselves under 16. This figure was between 3 and 5% among participants of older cohorts. It was, however, 23% among participants born after 1984 (data not shown).

Familiarity Between Partners and Place of First Meeting

The degree of familiarity between partners at FAI was higher for younger cohorts (Table 1). About half of participants born after 1974 reported knowing their partner well or very well. That proportion was of one third among older participants. However, FAI frequently occurred with an anonymous partner: one third of participants born before 1965, and one fifth of those born between 1975 and 1984 reported that they did not know their partner at all. This situation was far less frequent among younger participants (8%).

The distribution of encounter locations in different birth cohorts showed clear trends (Table 1). From older age classes to younger ones, a steep decrease was observed in the proportion of participants who met their partner in sex-seeking locations, such as gay bathhouses and open air cruising areas. Among men born after 1974, the Internet was the most frequently reported location where the partner was met, in particular among participants born after 1984. The proportion of participants who met their partner in school environments remained relatively low from one cohort to another.

There was a strong association between place of first meeting and degree of familiarity. Most partners encountered in sex-seeking locations were anonymous partners (56%) or known only a little by participants (27%). Partners encountered in common locations (such as school, work place, bars or by friends) were mostly familiar faces: 55% were well or very well known by participants. Participants who met their partners through the Internet reported a lower degree of familiarity: 47% reported that they knew him a little and 20% did not know him at all.

Table 1 Characteristics of first anal intercourse (FAI) by birth cohorts among participants who experienced anal intercourse

	1985–1989		1975–1984		1965–1974		Before 1965		All	
	n = 95	CI 95% ^d	n = 591	CI 95% ^d	n = 660	CI 95% ^d	n = 690	CI 95% ^d	n = 2,036	CI 95% ^d
Mean age of participant at FAI	15.6	15–16	19.8	19.5–20	23.3	23–24	26.2	26–27	22.9	22.6–23
Mean age of partner (in years) ^a	22.7	21–24	25.3	25–26	27.2	27–29	28.4	28–29	26.8	26.5–27
<i>Age difference between the partners^b</i>										
Younger partner (4 years and more)	0.0	0–4	3.6	2–5	12.0	10–15	21.9	19–25	12.3	11–14
Partner of same age (+/- 3 years)	44.2	34–55	43.3	39–47	41.7	38–46	35.7	32–39	40.2	38–42
Older partner (4–9 years)	23.2	15–33	25.4	22–29	23.6	20–27	15.5	13–18	21.4	20–23
Older partner (10 years or more)	31.6	22–42	24.2	21–28	19.1	16–22	20.9	18–24	21.8	20–24
<i>Knowing one's partner at FAI (degree of familiarity)^b</i>										
Not at all	8.4	4–16	20.1	17–24	23.5	20–27	31.9	28–36	24.7	23–27
A little	42.1	32–53	34.2	30–38	32.6	29–36	32.5	29–36	33.5	31–35
Well	27.4	19–37	26.1	23–30	22.0	19–25	18.8	16–22	22.4	21–24
Very well	21.1	13–31	19.3	16–23	20.6	18–24	15.7	13–19	18.6	17–20
<i>Where did the participant meet his partner? (place of first meeting)^b</i>										
Common locations ^c	35.8	26–46	50.6	46–55	58.3	54–62	54.2	50–58	53.6	51–56
School, boarding school, University	15.8	9–25	11.5	9–14	10.9	9–14	8.1	6–10	10.4	9–12
Bar, discotheque	6.3	2–13	15.2	12–18	20.3	17–24	18.6	16–22	17.6	16–19
By friends	5.3	2–12	11.2	9–14	10.9	9–14	11.2	9–14	10.8	9–12
In an association	2.1	0–7	4.6	3–7	6.4	5–9	5.2	4–7	5.3	4–6
At work	1.1	0–6	3.6	2–5	4.9	3–7	3.2	2–5	3.7	3–5
Other (swimming pool, train, military...)	5.3	2–12	4.6	3–7	5.0	3–7	8.0	6–10	5.9	5–7
Sex-seeking areas ^c	0.0	0–4	8.8	7–11	20.0	17–23	32.2	29–36	19.9	18–22
Backroom, darkroom	0.0	0–4	0.3	0–1	0.6	0–2	0.9	0–2	0.6	0–1
Bathhouse	0.0	0–4	2.0	1–4	7.6	6–10	10.6	8–13	6.6	6–8
Open air cruising areas	0.0	0–4	6.4	5–9	11.8	9–15	20.7	18–24	12.7	11–14
Advertisements ^c	0.0	0–4	4.2	3–6	6.8	5–9	8.0	6–10	6.1	5–7
Press	0.0	0–4	2.9	2–5	5.9	4–8	6.7	5–9	5.0	4–6
Telephone network	0.0	0–4	1.4	1–3	0.9	0–2	1.3	1–2	1.1	1–2
Internet, Chat ^c	64.2	54–74	36.2	32–40	13.8	11–17	4.4	3–6	19.5	18–21
<i>Heterosexual sex before or in the same year^b</i>										
Yes	20.0	12–29	32.2	28–36	41.4	38–45	50.3	46–54	40.7	39–43
No, NR	80.0	71–88	67.9	64–72	58.6	55–62	49.7	46–54	59.3	57–61
<i>FAI in HIV/AIDS era (1985 →)</i>										
n	95		591		600		271		1557	
%	100.0		100.0		90.9		39.3		76.5	
<i>Condom use at FAI among those who had FAI after 1985^c</i>										
Yes	63.2	53–73	73.4	70–77	69.8	66–73	70.5	65–76	70.9	69–73
No	31.6	22–42	23.9	20–28	24.3	21–28	23.6	19–29	24.5	22–27
Did not remember	5.3	2–12	2.2	1–4	5.7	4–8	5.9	3–9	4.4	3–6

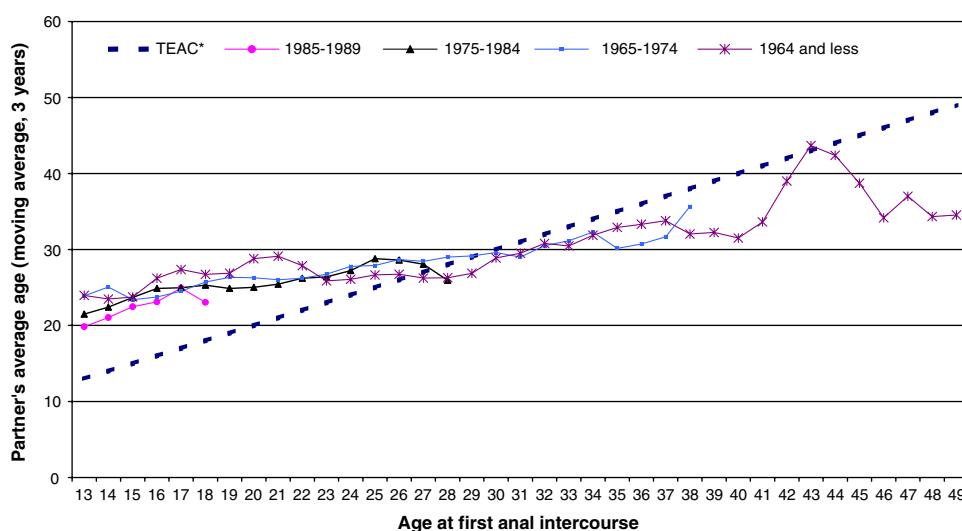
^a Median test: $p < .001$, ^b nptrend and χ^2 : $p < .001$, ^c nptrend: Non significant, ^d Confidence intervals (CI) for means and proportions only, CI around proportions are calculated using exact binomial, ^e Aggregate category

Non responses, included in calculation, are not shown. A table with standard deviations and ranges are available from the corresponding author

Partners were more likely to be of the same age (± 3 years) when they met in common locations (48% were of the same age) than in other settings (Internet: 39%; advertisements: 34%; sex-seeking areas: 22%). Large age discrepancy remained fre-

quent among participants born after 1984 and who met their partner on the Internet: 41% reported a 10 years (or more) older partner, against 22% in birth cohort 1984–1975 and about 10% among older participants.

Fig. 1 Average age of the partner at first anal intercourse, according to age of participant, by birth cohort (moving average, 3 years). TEAC: Theoretical equal age curve. Note: Ages shown on X-coordinate: 13–49 years



Heterosexual Intercourse

About two participants in five had heterosexual intercourse in the same year or prior to FAI with a male partner (Table 1). This proportion fell strongly across birth cohorts, from 50% among participants born before 1965 to 20% among the youngest participants ($p < .05$).

Condom Use at First Anal Intercourse

More than two thirds (71%) of men who had FAI after 1984 used condoms on this occasion (Table 1). There was no statistically significant difference between cohorts, although this proportion was lower for the youngest 1985–1989 cohort (63%).

Factors Associated with Condom Use at FAI

In bivariate analysis, factors significantly associated with condom use at FAI were: having met one's partner outside common locations, low familiarity level between partners, and prior heterosexual intercourse (Table 2). Having FAI with a partner much more older (10 years or more), on the other hand, was not significantly associated with condom use. There was no significant difference according to linguistic area and education level. This pattern of association was similar for birth cohorts 1975–1984 and 1965–1974. Among younger participants, education level was the sole variable positively associated with condom use.

Table 3 shows results of the logistic regression regarding factors associated with condom use, with and without stratification by birth cohort. Age at FAI was the only factor positively associated with condom use among the three birth cohorts. The probability of using condoms rose with age at this first experience. With the exception of birth cohort 1985–1989,

low degree of familiarity was another factor significantly associated with condom use. Experiencing anal intercourse for the first time with an older partner (10 years or more) was, for the overall sample, negatively associated with condom use. However, this effect was not found in cohorts 1975–1984 and 1965–1974. Having prior heterosexual intercourse was no longer a significant factor, except in cohort 1985–1989, in which it was strongly associated with condom use. The other significant factors were cohort specific. Among participants born between 1984 and 1975, Internet as an encounter location was positively associated with protection, as well as a low educational level.

Discussion

The aim of this study was to examine circumstances surrounding FAI as reported by MSM living in Switzerland in a cross-sectional survey. In our sample of MSM, first experience of anal intercourse occurred rather late, in comparison with available data about age at first sexual intercourse among the general population. Most participants in our survey were over 18 years (M , 22.9 years) when they initiated this sexual practice, whereas age at first sexual intercourse among the Swiss general population is, on the average, lower (Dubois-Arber et al., 2003; Miller et al., 1997). However, the comparison is not totally relevant, since age at FAI probably does not coincide with age at first sexual intercourse. A representative survey conducted among Swiss adolescents (Narring et al., 2000) would support this affirmation, since one third (19/56) of the male participants who reported sexual intercourse with a person of the same sex had not yet had penetrative intercourse. Furthermore, there is evidence that men, more frequently than women, generally include non-penetrative sex in their definition of sexual intercourse (Jeannin, Konings, Dubois-Arber, Landert,

Table 2 Bivariate analysis of factors associated with condom use at first anal intercourse (FAI)

	Condom use															
	All				Birth cohort 1985–1989				Birth cohort 1975–1984				Birth cohort 1965–1974			
	Yes		No		Yes		No		Yes		No		Yes		No	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Linguistic area																
German	789	74.4	271	25.6	50	66.7	25	33.3	304	75.3	100	24.8	305	74.6	104	25.4
French, Italian	287	75.3	94	24.7	8	62.5	5	38.5	121	76.6	37	23.4	102	73.9	36	26.1
Education																
High school diploma	745	75.6	241	24.4	19	90.5	2	9.5	284	75.3	93	24.7	310	75.2	102	24.8
No high school diploma	357	72.0	139	28.0	41	60.3	27	39.7	149	75.6	48	24.4	109	71.2	44	28.8
Place of first meeting																
Common locations	527	69.2	235	30.8	21	67.7	10	32.3	206	70.1	88	29.9	219	69.1	98	30.9
Sex-seeking areas	192	82.8	40	17.2					37	77.1	11	22.9	91	82.7	19	17.3
Advertisement	69	71.9	27	28.1					19	79.2	5	20.8	28	68.3	13	31.7
Internet	310	80.5	75	19.5	39	66.1	20	33.9	172	82.3	37	17.7	76	84.4	14	15.6
Age difference between partners																
Partner older (10 years and more)	193	69.4	85	30.6	22	75.9	7	24.1	99	69.7	43	30.3	62	66.7	31	33.3
Partner younger, same age or older (up to 9 years)	865	75.2	286	24.9	38	63.3	22	36.7	319	77.1	95	23.0	339	75.0	113	25.0
Degree of familiarity																
Well, very well	416	65.1	223	34.9	29	65.9	31	68.9	180	68.7	82	31.3	152	63.9	86	36.1
A little, not at all	678	81.5	154	18.5	15	34.1	14	31.1	254	81.4	58	18.6	258	81.1	60	18.9
Prior heterosexual experience																
No	610	70.7	253	29.3	45	62.5	27	37.5	283	72.8	106	27.3	218	70.1	93	29.9
Yes	494	79.4	128	20.6	15	83.3	3	16.7	151	81.2	35	18.8	201	79.1	53	20.9

Note: Participants born before 1965, either who had FAI before 1985 or who did not recall whether having used condoms, were excluded

Bold: χ^2 test, $p < .05$

& Van Melle, 1998; Spencer, 1996). Consequently, FAI should not be taken as first intercourse, but only as the first experience of a specific sexual practice.

The cohort analysis showed a decrease in median age at FAI across cohorts. This suggests that, up to a recent period, most MSM initiated this sexual practice in early adulthood. According to the observed downward trend, this experience likely occurs at an age that corresponds, for many MSM, to the first experiences of coming out, that is to say, a period of elevated vulnerability for many of them (Cochand & Singy, 2001; Delor & Hubert, 2000). These trends may, however, also reflect changes in the normative context in Switzerland. A greater visibility and acceptability of homosexuality would make it easier for young MSM to come to terms with and express a gay identity.

Large age discrepancy between sex partners is not a rare phenomenon among MSM (Moreau-Gruet, Jeannin, Dubois-Arber, & Spencer, 2001; Rind, 2001). In our sample, at least one participant in five, in each cohort, reported a partner much older (10 years or more) at FAI. Age difference was closely related to age at this first experience. MSM who initiated this

sexual practice relatively early were more likely to report a partner much older on average. As shown in Fig. 1, age discrepancy tended to decrease with age at FAI. This feature, which was observed in each birth cohort, may be specific to MSM. A recent study on age difference at “first sexual partnership” showed that among heterosexual (men and women) age discrepancy between partners tended to increase with age at this event (Mercer et al., 2006).

Five percent of all participants had FAI with an adult (age 18 or more) while they were under the age of 16 years (legal age of consent in Switzerland), a situation that is likely to expose the adult partner to penal prosecution for sexual abuse. Higher percentages have been described in the literature (Jinich, Paul, Stall, Acree, & Kegeles, 1998). There was, however, no formal question on sexual abuse in our survey.

Our data suggest that it may still be difficult for young gay men to meet a sexual partner in their everyday environment. The proportion of participants who met their partner at a common location remained quite stable across birth cohorts. On the other hand, we observed a steep increase, across cohorts, in the proportion of participants who encountered their partner

Table 3 Factors associated with condom use at first anal intercourse (FAI); all birth cohorts together and each separately

	All (<i>n</i> = 1144)		Birth cohort (<i>n</i> = 86)		Birth cohort (<i>n</i> = 541)		Birth cohort (<i>n</i> = 517)		
	OR	CI 95%	OR	CI 95%	OR	CI 95%	OR	CI 95%	
Birth cohort									
1985–1989	1.18	.81–1.72							
1975–1984 (ref)	1.00								
1965–1974	.49	.36–.67							
Age at FAI	1.14	1.09–1.19	1.38	1.06–1.79	1.22	1.15–1.30	1.10	1.03–1.17	
Linguistic area									
German (ref)	1.00		1.00		1.00		1.00		
French, Italian	1.11	.84–1.47	.64	.18–2.23	1.28	.92–1.76	1.05	.65–1.69	
Education									
High school diploma (ref)	1.00		1.00		1.00		1.00		
No high school diploma	.90	.65–1.26	.14	.01–1.80	1.20	1.09–1.32	.87	.41–1.82	
Place of first meeting									
Common locations (ref)	1.00				1.00		1.00		
Sex-seeking areas	1.41	.66–3.02	*		1.24	.73–2.13	1.55	.35–6.79	
Advertisement	.97	.31–3.01	*		1.45	.70–3.02	.78	.21–2.97	
Internet	1.23	.91–1.68	.75	.41–1.39	1.31	1.05–1.63	1.28	.71–2.32	
Age difference between partners									
Partner younger same age or older—up to 9 years (ref)	1.00				1.00		1.00		
Partner older (10 years and more)	.74	.57–.97	2.14	.88–5.25	.68	.39–1.18	.67	.41–1.11	
Degree of familiarity									
Well, very well (ref)	1.00				1.00		1.00		
A little, not at all	1.84	1.08–3.13	1.27	.69–2.35	1.67	1.14–2.45	2.09	.98–4.47	
Prior heterosexual experience									
No (ref)	1.00				1.00		1.00		
Yes	1.32	.65–2.69	3.34	2.25–4.96	1.23	.51–2.98	1.25	.58–2.70	

Ref: Reference category

* No participants in these modalities

Bold: $p < .005$

Note: Participants born before 1965, either who had their first anal intercourse before 1985 or who did not recall whether having used condoms, were excluded

using the Internet, apparently to the detriment of sex-seeking areas (bathhouses and open-air cruising areas). Although the Internet offers new forms of partner selection, especially for young people, it does not seem to diminish the age difference between partners. For instance, among participants born after 1984 and who encountered their partner on the Internet, 41% reported a 10 years (or more) older partner. A low familiarity level between partners also remained a stable feature, as more than half of the participants in each cohort reported such a situation.

More than two thirds (71%) of survey participants who had FAI in the HIV/AIDS era used condoms on this occasion. This figure is close to the one (about 74%) which was observed among Swiss adolescents of the general population (Narring et al., 2000). Age at FAI was positively and linearly associated

to condom use. Thus, the earlier FAI occurred, the higher the probability of unprotected intercourse. Having a 10 years older (or more) partner a factor that was also associated with an early FAI in bivariate analysis (Table 2)—figured in logistic regression as an independent factor predictive of less frequent condom use. Finally, low familiarity level increased the probability of using condoms. Among those factors, however, only age at FAI remained significant in each cohort.

As a whole, these results confirmed the fact that FAI occurred frequently in a situation characterized by a substantial age discrepancy between partners. Two problems would emerge from this fact. The association of an early age at FAI with large age discrepancy and less frequent condom use creates a risk of transmission of HIV from old to young cohorts. Such a risk does not appear so strongly among young

heterosexuals who are more likely to recruit their first partner in their own birth cohort (Bozon, 2006; Mercer et al., 2006), where HIV prevalence is low. The second problem is the partner's asymmetric position in terms of power relations and negotiation skills regarding condom use. We think that an older partner may easily take advantage of a young and inexperienced man. We believe that such a situation with power imbalance will remain frequent in the future, given that the wide age discrepancy between partners remains a stable feature.

Limitations

The survey was performed in the context of an established national HIV behavioral surveillance (Dubois-Arber, Masur, Hausser, Zimmermann, & Paccaud, 1993; Moreau-Gruet et al., 2006). The MSM component was based on non-probabilistic sampling, mainly for cost reasons (Pollack, Osmond, Paul, & Catania, 2005) and the need of national coverage. This does not allow us to infer our results to the whole MSM population in Switzerland. However, the use of several distribution channels with large coverage permitted us to attenuate selection bias, and the use of the Internet in 2004 allowed us to reach younger and less educated participants (Balthasar et al., 2005). Experience in behavioral surveillance in MSM in Europe (Bochow et al., 1994; Moreau-Gruet et al., 2006; Pollak, 1992; Sandfort, 1997) has demonstrated the robustness over time and across countries of this type of sampling with identified bias: overrepresentation of older, more educated, and gay identified MSM with probable overestimation of risk behavior. However, we do not know how these variables are related with FAI which occurred in the past.

For older participants, FAI was a more distant event than for younger participants and recall bias may be more important in those. However, it can be assumed that the effect of this type of bias is randomly distributed and does not affect comparisons between cohorts.

As part of more general study on sexual and preventive behaviors, some issues were insufficiently dealt with. For instance, we did not ask our participants whether FAI was a forced one or not. We also did not inquire about their insertive or receptive position at FAI. This information would have been relevant to have a better understanding of power differential, already induced by the large age discrepancy between the partners. Given the different HIV transmission probabilities associated to each position (Varghese et al., 2002; Vittinghoff et al., 1999), our lack of distinction limits our appreciation of the actual risks involved in FAI.

In terms of interventions, these results speak strongly for heightening awareness of prevention actions regarding the sexual debut of men attracted to men, not only within the context of community-based programs, but also in school-based HIV prevention or sex education programs. The decreasing age at FAI implies and confirms that HIV prevention in the context of

sex between men must be specifically addressed in the school environment (Blake et al., 2001; Goodenow, Netherland, & Szalacha, 2002).

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References

- Balthasar, H., Jeannin, A., & Dubois-Arber, F. (2005). Augmentation des expositions au risque d'infection par le VIH chez les hommes ayant des rapports sexuels avec des hommes: premiers résultats de GAYSURVEY 04 [Increase in HIV risk exposure among men who have sex with men: Preliminary results from the GAYSURVEY 04]. *Bulletin de l'Office Fédéral de la Santé Publique*, 48, 891–895.
- Balthasar, H., Jeannin, A., & Dubois-Arber, F. (2007). Surveillance des comportements face au VIH/sida chez les hommes ayant des rapports sexuels avec des hommes en Suisse, 1992–2004 [Surveillance of HIV/AIDS-related behaviors among men who have sex with men Switzerland, 1992–2004]. *International Journal of Public Health*, 52, 27–38.
- Blake, S. M., Ledsky, R., Lehman, T., Goodenow, C., Sawyer, R., & Hack, T. (2001). Preventing sexual risk behaviors among gay, lesbian, and bisexual adolescents: The benefits of gay-sensitive HIV instruction in schools. *American Journal of Public Health*, 91, 940–946.
- Bochow, M., Chiarotti, F., Davies, P., Dubois-Arber, F., Dür, W., Fouchard, J., et al. (1994). Sexual behaviour of gay and bisexual men in eight European countries. *AIDS Care*, 6, 533–549.
- Bozon, M. (2006). Reaching adult sexuality. First intercourse and its implications: From calendar to attitudes. In M. Bozon & H. Leridon (Eds.), *Sexuality and the social sciences: A French survey on sexual behaviour* (pp. 143–175). Aldershot, England: Dartmouth Publishing Company.
- Bozon, M., & Kontula, O. (1998). Sexual initiation and gender in Europe: A cross-cultural analysis of trends in the twentieth century. In M. Hubert, N. Bajos, & T. Sandfort (Eds.), *Sexual behaviour and HIV/AIDS in Europe* (pp. 37–67). London: UCL Press.
- Cochand, P., & Singy, P. (2001). *Développement identitaire et risques de contamination par le VIH chez les jeunes homosexuels et bisexuels en Suisse romande*. Lausanne: Département universitaire de psychiatrie adulte (DUPA) (Raisons de santé, 71).
- Davis, M., Hart, G., Bolding, G., Sherr, L., & Elford, J. (2006). Sex and the Internet: Gay men, risk reduction and serostatus. *Culture, Health and Sexuality*, 8, 161–174.
- Delor, F., & Hubert, M. (2000). Revisiting the concept of 'vulnerability'. *Social Science & Medicine*, 50, 1557–1570.
- Dubois-Arber, F., Jeannin, A., Meyste-Agostoni, G., Spencer, B., Moreau-Gruet, F., Balthasar, H., et al. (2003). *Evaluation of the HIV/AIDS prevention strategy in Switzerland: Abridged version of the seventh synthesis report 1999–2003*. Lausanne: Institut universitaire de médecine sociale et préventive.
- Dubois-Arber, F., Jeannin, A., & Spencer, B. (1999). Long term global evaluation of a national AIDS prevention strategy: The case of Switzerland. *AIDS*, 13, 2571–2582.
- Dubois-Arber, F., Masur, J. B., Hausser, D., Zimmermann, E., & Paccaud, F. (1993). Evaluation of AIDS prevention among homosexual and bisexual men in Switzerland. *Social Science & Medicine*, 37, 1539–1544.

- European Centre for the Epidemiological Monitoring of AIDS. (2002). *HIV/AIDS surveillance in Europe: Mid-year report, No. 67*. Saint-Maurice: Institut de Veille Sanitaire.
- Fassin, E. (2000). "Out": la métaphore paradoxale [Out: The paradoxical metaphor]. In L.-G. Tin & G. Pastre (Eds.), *Homosexualités: expression/répression* [Homosexualities: Expression/repression] (pp. 180–194). Paris: Stock.
- Flowers, P., & Buston, K. (2001). "I was terrified of being different": Exploring gay men's accounts of growing-up in a heterosexist society. *Journal of Adolescence*, *24*, 51–65.
- Goodenow, C., Netherland, J., & Szalacha, L. (2002). AIDS-related risk among adolescents males who have sex with males, females, or both: Evidence from a statewide survey. *American Journal of Public Health*, *92*, 203–210.
- Hefez, S. (2003). Adolescence et homophobie: regards d'un clinicien [Adolescence and homophobia: The perspective of a clinician]. In C. Broqua, F. Lert, & Y. Souteyrand (Eds.), *Homosexualités au temps du sida: tensions sociales et identitaires* [Homosexuality in the AIDS era: Social tensions and identity issues] (pp. 147–168). Paris: Agence nationale de recherches sur le sida.
- Hospers, H. J., Harterink, P., Van Den, H. K., & Veenstra, J. (2002). Chatters on the Internet: A special target group for HIV prevention. *AIDS Care*, *14*, 539–544.
- Hospers, H. J., Kok, G., Harterink, P., & de Zwart, O. (2005). A new meeting place: Chatting on the Internet, e-dating and sexual risk behaviour among Dutch men who have sex with men. *AIDS*, *19*, 1097–1101.
- Igartua, K. J., Gill, K., & Montoro, R. (2003). Internalized homophobia: A factor in depression, anxiety, and suicide in the gay and lesbian population. *Canadian Journal of Community Mental Health*, *22*, 15–30.
- Jeannin, A., Konings, E., Dubois-Arber, F., Landert, C., & Van Melle, G. (1998). Validity and reliability in reporting sexual partners and condom use in a Swiss population survey. *European Journal of Epidemiology*, *14*, 139–146.
- Jinich, S., Paul, J. P., Stall, R., Acree, M., & Kegeles, S. (1998). Childhood sexual abuse and HIV risk-taking behavior among gay and bisexual men. *AIDS and Behavior*, *2*, 41–51.
- Kosofsky Sedgwick, E. (1990). *Epistemology of the closet*. Berkeley: University of California Press.
- Lawless, J. F. (2003). *Statistical models and methods for lifetime data* (2nd ed.). Hoboken, NJ: Wiley.
- Lhomond, B. (1997). Attirance et pratiques homosexuelles [Attraction and homosexual practices]. In H. Lagrange & B. Lhomond (Eds.), *L'entrée dans la sexualité: le comportement des jeunes dans le contexte du sida* [Sexual debut: Behaviour of the youth in the AIDS era] (pp. 183–226). Paris: La Découverte.
- Mercer, C. H., Wellings, K., Macdowall, W., Copas, A. J., McManus, S., Erens, B., et al. (2006). First sexual partnerships: Age differences and their significance: Empirical evidence from the 2000 British National Survey of Sexual Attitudes and Lifestyles ('Natsal 2000'). *Journal of Adolescent Health*, *39*, 87–95.
- Messiah, A., & Mouret-Fourne, E. (1996). Homosexuality, bisexuality: Elements of sexual socio-biography. In M. Bozon & H. Léridon (Eds.), *Sexuality and the social sciences: A French survey on sexual behaviour* (pp. 177–202). Aldershot, England: Dartmouth Publishing Company.
- Miller, K. S., Clark, L. F., & Moore, J. S. (1997). Sexual initiation with older male partners and subsequent HIV risk behavior among female adolescents. *Family Planning Perspectives*, *29*, 212–214.
- Moreau-Gruet, F., Dubois-Arber, F., & Jeannin, A. (2006). Long-term HIV/AIDS-related prevention behaviours among men having sex with men: Switzerland 1992–2000. *AIDS Care*, *18*, 35–43.
- Moreau-Gruet, F., Jeannin, A., Dubois-Arber, F., & Spencer, B. (2001). Management of the risk of HIV infection in male homosexual couples. *AIDS*, *15*, 1025–1035.
- Narring, F., Stronski Huwiler, S. M., & Michaud, P. A. (2003). Prevalence and dimensions of sexual orientation in Swiss adolescents: A cross-sectional survey of 16 to 20-year-old students. *Acta Paediatrica*, *92*, 233–239.
- Narring, F., Wydler, H., & Michaud, P. A. (2000). First sexual intercourse and contraception: A cross-sectional survey on the sexuality of 16–20-year-olds in Switzerland. *Schweizerische Medizinische Wochenschrift*, *130*, 1389–1398.
- Office fédéral de la statistique. (2002). *Annuaire statistique de la Suisse 2002: Version numérique* [Swiss statistical directory 2002: Numerical version]. Neuchâtel: Author.
- Pollak, M. (1992). Assessing AIDS prevention among male homo- and bisexuals. In F. Paccaud, J. P. Vader, & F. Gutzwiller (Eds.), *Assessing AIDS prevention* (pp. 137–157). Basel: Birkhäuser Verlag.
- Pollack, L. M., Osmond, D. H., Paul, J. P., & Catania, J. (2005). Evaluation of the Center for Disease Control and Prevention's HIV behavioural surveillance of men who have sex with men: Sampling issues. *Sexually Transmitted Diseases*, *32*, 581–589.
- Remafedi, G. (1999). Sexual orientation and youth suicide. *Journal of the American Medical Association*, *282*, 1291–1292.
- Remafedi, G. (2002). Suicidality in a venue-based sample of young men who have sex with men. *Journal of Adolescent Health*, *31*, 305–310.
- Richard, H., & Guillemot, D. (1996). Les jeunes hommes attirés par des relations sexuelles avec des partenaires de même sexe [Young men attracted to sexual relations with partners of the same sex]. In M. Calvez, M.-A. Schiltz, & Y. Souteyrand (Eds.), *Les homosexuels face au sida: rationalités et gestion des risques* [Homosexuals and AIDS: Rationales and risk management] (pp. 43–53). Paris: Agence nationale de recherches sur le sida.
- Rind, B. (2001). Gay and bisexual adolescent boys' sexual experiences with men: An empirical examination of psychological correlates in a nonclinical sample. *Archives of Sexual Behavior*, *30*, 345–368.
- Rosario, M., Meyer-Bahlburg, H. F. L., Hunter, J., & Gwadz, M. (1999). Sexual risk behaviors of gay, lesbian, and bisexual youths in New York City: Prevalence and correlates. *AIDS Education and Prevention*, *11*, 476–496.
- Rosenbrock, R., Dubois-Arber, F., Moers, M., Pinell, P., Schaeffer, D., & Setbon, M. (2000). The normalization of AIDS in Western European countries. *Social Science & Medicine*, *50*, 1607–1629.
- Ross, M. W., Tikkanen, R., & Mansson, S. A. (2000). Differences between Internet samples and conventional samples of men who have sex with men: Implications for research and HIV interventions. *Social Science & Medicine*, *51*, 749–758.
- Sandfort, T. G. M. (1997). Sampling male homosexuality. In J. Bancroft (Ed.), *Researching sexual behavior: Methodological issues* (pp. 261–275). Bloomington: Indiana University Press.
- Sandfort, T. G. M. (1998). Homosexual and bisexual behaviour in European countries. In M. Hubert, N. Bajos, & T. Sandfort (Eds.), *Sexual behaviour and HIV/AIDS in Europe* (pp. 68–105). London: UCL Press.
- Schiltz, M.-A. (1998). Young homosexual itineraries in the context of HIV: Establishing lifestyles. *Population*, *10*, 417–446.
- Spencer, B. (1996). The normative context of sexual behaviour and the choice of prevention strategies. In M. Bozon & H. Léridon (Eds.), *Sexuality and the social sciences* (pp. 229–252). Aldershot: Dartmouth Publishing Company.
- Varghese, B., Maher, J. E., Peterman, T. A., Branson, B. M., & Steketee, R. W. (2002). Reducing the risk of sexual HIV transmission: Quantifying the per-act risk for HIV on the basis of choice of partner, sex act, and condom use. *Sexually Transmitted Diseases*, *29*, 38–43.
- Vittinghoff, E., Douglas, J., Judson, F., McKirnan, D., MacQueen, K., & Buchbinder, S. P. (1999). Per-contact risk of human immunodeficiency virus transmission between male sexual partners. *American Journal of Epidemiology*, *150*, 306–311.