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The Swiss Network of Dermatology Policlinics HIV prevalence study: Rationale, characteristics and results (1990–1996)

Summary

The Swiss Network of Dermatology Policlinics (SNDP) has monitored the prevalence of HIV among patients treated for a sexually transmitted disease (STD) since January 1990. A questionnaire was sent to each policlinic in the network (Basel, Bern, Geneva, Lausanne, and two in Zurich) to collect information on their participation in this study and the characteristics of the network. The responses reveal that the six policlinics followed the HIV prevalence study protocol in a uniform manner and had similar logistical and organisational characteristics. HIV prevalences in this population were high (1.6% among heterosexuals, 24.0% among male homo/bisexuals, and 35.7% among injecting drug users), have remained stable, and vary considerably by policlinic. In conclusion, we found that the policlinics have correctly implemented the HIV prevalence study and that the SNDP is a homogeneous sentinel surveillance system. Knowledge of the organisation and characteristics of the SNDP has allowed us to better interpret and present our data, and we recommend that other sentinel surveillance systems of this type collect this sort of information.

The Swiss Network of Dermatology Policlinics (SNDP) has monitored the prevalence of HIV among STD patients since January 1990. This study was begun as part of a European Concerted Action (CA) to monitor HIV prevalences among sentinel STD populations in Europe[1]. An important objective of the CA was to establish an "early warning" system for the spread of HIV among heterosexuals in Europe. STD patients are a particularly appropriate population to monitor HIV prevalences since they are at increased risk for HIV infection[2]. The STD patients consulting the SNDP have been shown to have low levels of condom use[3], high numbers of sexual partners[4], and to have frequently acquired their STD infection abroad, often in regions where HIV is highly prevalent[5].

The CA allowed 15 European countries (Belgium, the Czech Republic, Denmark, England and Wales, Finland, France, Germany, Greece, Italy, Netherlands, Portugal, Scotland, Spain, Sweden, and Switzerland) to establish a common surveillance protocol in 1990. The coordination of the CA was performed by the Scientific Institute of Public Health (previously, the Institute of Hygiene and Epidemiology) in Brussels, with funding from the European Commission (DGXII – Medical Research Programme). The CA came to an end in October 1997 and a final evaluation report summarising the project and its findings has been published[1]. As in most countries, the HIV prevalence study in Switzerland did not stop with the end of the CA.

To interpret the HIV prevalence trends, both nationally and for all European networks, it is critical to know how the HIV prevalence study was implemented and the characteristics of the different networks[1]. A questionnaire dealing with these issues was therefore sent

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to each of the networks participating in the CA in November 1996. This paper presents this information for each of the policlinics in the SNDP, plus HIV prevalences between 1990 and 1996 by patient category.

Methods

The HIV prevalence study

Patients were eligible for the European CA HIV prevalence study when they consulted the policlinic with a new episode of one or more of a selcted list of 12 STDs (male urethritis, proctitis, mucopurulent cervicitis, chlamydia, gonorrhoea, herpes genitalis, chancroid, syphilis, genital warts, trichomonas vaginalis, pelvic inflammatory disease, pediculosis pubis), provided that the patient had not been seen for any of these STDs in the previous 90 days[2]. The SNDP also collected data on scabies and later stages of syphilis (i.e.: non-stage I and II), and therefore, collected data on a total of 13 different STDs.

Each STD patient was offered a voluntary confidential HIV test (testing with "informed consent"). A standard questionnaire was completed for each patient, even if s/he refused the test. Information on the patient (e.g.: age, sex, country of birth), the STD infection, his/her sexuality (e.g.: sexual orientation, number of sexual partners in the previous six months), history of injecting drug use, and the HIV test result was collected for each patient. Identification numbers rendered the questionnaires anonymous to those performing the data analysis.

The SNDP reported 5106 STD patients between January 1990 and December 1996. The following patients were excluded from the analysis of HIV prevalences: patients whose place of residence was not Switzerland (n = 240), female homo/bisexuals (n = 5), patients whose risk of HIV infection could not be established (n = 25), and, in accordance with the CA study protocol, persons diagnosed with scabies (n = 537) or later stages of syphilis (n = 146). The HIV prevalence results are therefore based on a total of 4153 STD patients, of whom 3340 (80.4%) had an HIV test.

The questionnaire sent to each of the policlinics

Each policlinic in Switzerland was sent a questionnaire which was put together by the European study coordinators in Brussels. The questionnaire had 63 questions which covered areas, such as a description of the service, participation in the European study, HIV testing and counselling, and resources available for the study. In addition, questions were included about changes at the policlinics within the last 5 years which could be relevant to the interpretation of the HIV prevalences over time (e.g.: a change in the population characteristics of those consulting the policlinics, the opening or closure of medical facilities/services dealing with STDs/HIV, or the HIV testing procedure at the policlinic).

Results

Table 1 presents the characteristics of the six policlinics in Switzerland. All policlinics reported that they mainly worked in the field of "Dermatology", two considered themselves to be "STD clinics" (Basel and Zurich-Triemli) and two to be "Medical facilities for students" (Basel and Geneva). The mean number of policlinic patient visits per week ranged from 75 in Lausanne to 150–200 in Geneva. The proportion of all consultations which concerning a STD was low approximately 0.75% in Basel and 10% in Zurich-Triemli and Zurich-University. Apart from two policlinics which based their patient inclusion criteria on 12 rather than 13 STDs, the policlinics reported that they correctly followed the European CA study protocol (data not shown).

The STD patients consulting the policlinics between January 1990 and December 1996 were predominantly male (89%), and either heterosexuals (83%) or homo/bisexuals (13%) (Table 2). Foreigners represented 45% of all STD patients, and the two policlinics in Zurich saw 50% of all STD patients.

The HIV test was accepted by 3340 STD patients (80.4%), refused by 700 (16.9%) and no information was provided for 113 patients (2.7%). Overall, HIV prevalences between 1990 and 1996 were 1.6% among heterosexuals, 24.0% among homo/bisexual men, and 35.7% among injecting drug users (Table 3). HIV prevalences ranged from 0.8% (Zurich-Triemli) to 2.9% (Lausanne) among heterosexuals, from 18.2% (Zurich-Triemli) to 41.4% (Lausanne) among homo/bisexual men, and from 11.5% (Basel) to 62.2% (Zürich-University) among injecting drug users (range excludes Lausanne where there were only two injecting drug users). With the exception of a borderline significant increase in the prevalence of HIV among heterosexual STD patients in Lausanne (test for trend: $\chi^2 = 3.69$, $p = 0.055$), HIV prevalences remained unchanged over time (by patient category and policlinic).

The policlinic at the Geneva University Hospital was the only policlinic to mention that there had been a change during the previous five years which may affect the observed HIV prevalences. This policlinic reported that a new HIV/AIDS treatment centre and an HIV testing site had been opened during the prevalence study (data not shown).

	University Hospital, Basel	University Hospital, Bern	University Hospital, Geneva	University Hospital, Lausanne	University Hospital, Zurich	Triemli Hospital, Zurich
Type of service	dermatology, STD clinic, medical facility for students	dermatology	dermatology, medical facility for students	dermatology	dermatology	dermatology, STD clinic
Mean number of visits per day	100	about 80	150–200	75	100	80–90
Mean number of STD visits per day/month	15 per month	don't know	don't know	don't know	10 per day	8–10 per day
Identify visitors with repeated STDs?	yes	yes (at department level)	no	no	yes	yes
If yes, what proportion of STD patients were seen within 12 months before their current visit?	approx. 20%	no data	–	–	unknown	approx. 20%
Pre-/post HIV test counselling	yes/yes	yes/yes	yes/yes	yes/yes	yes/yes	yes/yes
Population not returning for HIV test result (%)	20%	no data, guessed to be small	don't know	<5%	<5%	5%

Table 1. *Characteristics of the policlinics participating in the Swiss Network of Dermatology Policlinics.*

Discussion

The responses to the November 1996 questionnaire reveal that the six policlinics in the SNDP form a relatively homogenous sentinel surveillance network. They had similar logistical characteristics: they stuck to the HIV prevalence study protocol, they saw similar STD patients (mainly heterosexual and homo/bisexual men), and the environment within which the networks operated in the previous five years generally remained stable.

The homogeneity of the network is a good basis to monitor HIV prevalences over time. As expected, HIV prevalences in this population were high: 1.6% among heterosexuals, 24% among male homo/bisexuals, and 35.7% among injecting drug users. In comparison, HIV prevalences among persons attending anonymous HIV test sites at the five university hospitals in Basel, Bern, Lausanne, and Zürich ranged from 0.27% to 0.57% among heterosexuals, 2.0% to 5.0% among homo/bisexual men, and 1.4% to 8.6% among injecting drug users (1990–1996)[6]. Self-reported HIV prevalences among homo/bisexual men who participated in a national HIV-related behavioural survey ranged from 10% to 13% between 1990 and 1994[7].

The HIV prevalences observed in this population are representative of a particular subgroup of all STD patients. This is highlighted by a number of population characteristics: the clinics are located in the five largest urban centres in the country, roughly 90% of patients are male and 45% are foreigners. The results should, therefore, be interpreted primarily in the context of the patients treated for an STD at the six policlinics and can hardly be generalised to all STD patients in Switzerland.

There are indications that HIV prevalences increased among hetero-

	University Hospital, Basel	University Hospital, Bern	University Hospital, Geneva	University Hospital, Lausanne	University Hospital, Zurich	Triemli Hospital, Zurich	Total
Total	**963**	**357**	**822**	**435**	**1224**	**1305**	**5106**
Sex							
Men	856 (88.9)	335 (93.8)	731 (88.9)	399 (91.7)	1112 (90.8)	1131 (86.7)	4564 (89.4)
Women	107 (11.1)	22 (6.2)	91 (11.1)	35 (8.0)	111 (9.1)	174 (13.3)	540 (10.6)
Unknown	–	–	–	1 (0.2)	1 (0.1)	–	2 (0.0)
Patient category							
Heterosexuals	792 (82.2)	300 (84.0)	690 (83.9)	386 (88.7)	1021 (83.4)	1044 (80.0)	4233 (82.9)
Homo/bisexual men	122 (12.7)	31 (8.7)	108 (13.1)	42 (9.7)	151 (12.3)	209 (16.0)	663 (13.0)
Injecting drug users	45 (4.7)	21 (5.9)	21 (2.6)	4 (0.9)	44 (3.6)	34 (2.6)	169 (3.3)
Unknown	4 (0.4)	5 (1.4)	3 (0.4)	3 (0.7)	8 (0.7)	18 (1.4)	41 (0.8)
Nationality							
Swiss	505 (52.4)	222 (62.2)	268 (32.5)	196 (45.0)	696 (56.7)	903 (69.2)	2790 (54.6)
European	345 (35.8)	78 (21.8)	281 (34.2)	137 (31.5)	328 (26.8)	271 (20.8)	1440 (28.2)
Asian	58 (6.0)	25 (7.0)	55 (6.7)	11 (2.5)	88 (7.2)	52 (4.0)	289 (5.7)
African	21 (2.2)	11 (3.1)	103 (12.5)	18 (4.1)	34 (2.8)	23 (1.8)	210 (4.1)
Other	30 (3.1)	14 (3.9)	89 (10.8)	31 (7.1)	62 (5.1)	54 (4.1)	280 (5.5)
Unknown	4 (0.4)	7 (2.0)	26 (3.2)	42 (9.7)	16 (1.3)	2 (0.2)	97 (1.9)

[a] STD diagnoses: male urethritis, proctitis, mucopurulent cervicitis, chlamydia, gonorrhoea, herpes genitalis, chancroid, syphilis (all stages), genital warts, trichomonas vaginalis, pelvic inflammatory disease, pediculosis pubis, and scabies.

Table 2. *STD patients[a] attending the Swiss Network of Dermatalogy Policlinics, January 1990–December 1996.*

sexual STD patients in Lausanne between 1990 and 1996. In 1990 and 1991, HIV prevalences in this population were 0.0% and 1.5%, and in 1995 and 1996 6.7% and 4.0% respectively. There may have been a real increase in the prevalence of HIV infection among heterosexual STD patients in Lausanne, but the trend may also be associated with the small number of heterosexuals consulting this policlinic (an average of 34 per year). Indeed, the reclassification of a single HIV infected heterosexual as a homo/bisexual (e.g.: in 1996) or the exclusion of an HIV infected heterosexual who made repeated consultations to the policlinic would make the trend disappear.

HIV testing was voluntary and confidential, and many persons (17.6%) refused an HIV test. An analysis of the HIV test refusers has shown that while low-risk persons are more likely to refuse the test among heterosexuals, high-risk persons are more likely to do so among male homo/bisexuals[8]. The HIV prevalences in the Swiss HIV prevalence study are, therefore, probably overestimated among heterosexuals and underestimated among homo/bisexual men.

In conclusion, we found that the policlinics have correctly implemented the HIV prevalence study and that the SNDP is a homogenous sentinel surveillance system which has successfully monitored HIV prevalences in a population at increased risk for HIV infection since 1990. This data has been integrated into the national HIV surveillance system [6] and has allowed a better understanding of the epidemiology of STDs in Switzerland [9]. Knowledge of the organisation and characteristics of the SNDP has allowed us to better interpret and present our data, and we recommend that other sentinel surveillance systems of this type collect such information.

	1990		1991		1992		1993		1994		1995		1996		Total	
	%	(n)	%	(n)	%	(n)	%	(n)	%	(n)	%	(n)	%	(n)	%	(n)
All Policlinics																
Heterosexuals	2.1	(467)	1.9	(640)	0.4	(473)	1.3	(307)	1.8	(283)	3.2	(279)	1.2	(347)	1.6	(2796)
Homo/bisexual men	30.9	(55)	21.4	(84)	25.6	(86)	20.8	(53)	22.0	(59)	20.5	(39)	26.4	(53)	24.0	(429)
Injecting drug users	47.4	(19)	31.3	(32)	52.6	(19)	33.3	(12)	33.3	(15)	16.7	(6)	16.7	(12)	35.7	(115)
University Hospital, Basel																
Heterosexuals	1.8	(112)	0	(89)	0	(48)	0	(52)	2.0	(50)	2.8	(72)	1.3	(79)	1.2	(502)
Homo/bisexual men	27.3	(11)	17.6	(17)	41.7	(12)	30.0	(10)	37.5	(16)	25.0	(4)	12.5	(8)	28.2	(78)
Injecting drug users	20.0	(5)	0	(7)	0	(2)	0	(1)	0	(2)	0	(1)	25.0	(8)	11.5	(26)
University Hospital, Bern																
Heterosexuals	3.8	(52)	6.3	(32)	0	(28)	0	(13)	0	(27)	7.1	(14)	0	(28)	2.6	(194)
Homo/bisexual men	0	(3)	0	(3)	12.5	(8)	0	(1)	75.0	(4)	–		0	(1)	20.0	(20)
Injecting drug users	0	(3)	33.3	(3)	50.0	(2)	0	(2)	25.0	(4)	0	(2)	–		18.8	(16)
University Hospital, Geneva																
Heterosexuals	5.3	(95)	1.3	(78)	1.3	(79)	0	(52)	2.0	(49)	0	(35)	0	(27)	1.9	(415)
Homo/bisexual men	43.8	(16)	25.0	(12)	10.0	(10)	0	(11)	16.7	(6)	0	(10)	28.6	(7)	19.4	(72)
Injecting drug users	75.0	(4)	25.0	(1)	0	(1)	0	(3)	0	(2)	100.0	(1)	–		33.3	(15)
University Hospital, Lausanne																
Heterosexuals	0	(15)	1.5	(66)	0	(36)	6.3	(32)	2.9	(35)	6.7	(30)	4.0	(25)	2.9	(239)
Homo/bisexual men	–		50.0	(10)	28.6	(7)	33.3	(3)	0	(2)	57.1	(7)	–		41.4	(29)
Injecting drug users	–		–		–		–		0	(1)	–		0	(1)	0	(2)
University Hospital, Zurich																
Heterosexuals	1.2	(86)	2.2	(232)	0	(113)	1.9	(54)	2.9	(68)	5.0	(60)	1.9	(106)	1.9	(719)
Homo/bisexual men	45.5	(11)	22.7	(22)	33.3	(24)	21.4	(14)	7.7	(13)	22.2	(9)	31.3	(16)	26.6	(109)
Injecting drug users	100.0	(5)	42.9	(14)	75.0	(8)	75.0	(4)	60.0	(5)	–		0	(1)	62.2	(37)
Triemli Hospital, Zurich																
Heterosexuals	0	(107)	2.1	(143)	0.6	(169)	1.0	(104)	0	(54)	1.5	(68)	0	(82)	0.8	(727)
Homo/bisexual men	14.3	(14)	10.0	(20)	20.0	(25)	28.6	(14)	11.1	(18)	11.1	(9)	28.6	(21)	18.2	(121)
Injecting drug users	0	(2)	50.0	(4)	50.0	(6)	50.0	(2)	100.0	(1)	0	(2)	0	(2)	36.8	(19)

[a] STD diagnoses: male urethritis, proctitis, mucopurulent cervicitis, chlamydia, gonorrhoea, herpes genitalis, chancroid, syphilis (stages I and II), genital warts, trichomonas vaginalis, pelvic inflammatory disease, and pediculosis pubis.

Table 3. *HIV prevalences among STD patients[a] by policlinic of dermatology, patient category and year: Swiss Network of Dermatology Policlinics, January 1990–December 1996.*

Zusammenfassung

Die HIV-Prävalenzstudie im Schweizerischen Netzwerk der Dermatologischen Polikliniken: Zielsetzungen, Charakteristika und Resultate (1990–1996)

Seit Januar 1990 hat das Schweizerische Netzwerk der Dermatologischen Polikliniken (SNDP) die HIV-Prävalenz bei Patienten mit einer Geschlechtskrankheit (STD) erfasst. Ein Fragebogen wurde an alle Polikliniken im SNDP versandt (Basel, Bern, Genf, Lausanne, und die beiden Kliniken in Zürich), um Informationen über die Charakteristika und Teilnahme jeder Poliklinik an dieser Studie zu erhalten. Die Umfrage zeigte, dass die sechs Polikliniken das Studienprotokoll einheitlich befolgten und ähnliche organisatorische und logistische Charakteristiken aufwiesen. Die HIV-Prävalenz in der erfassten Bevölkerungsgruppe war hoch (1,6% bei heterosexuellen Personen, 24,0% bei homo/bisexuellen Männern und 35,7% bei Personen mit Drogeninjektion), hat sich seit 1990 nicht wesentlich verändert, und war in den Polikliniken unterschiedlich. Die Polikliniken haben somit die HIV-Prävalenzstudie korrekt implementiert und die SNDP stellt ein homogenes Sentinel-Überwachungs-System dar. Die Kenntnis der logistischen Organisation und Charakteristika des SNDP erlaubte es uns, die erhobenen Daten angemessen zu interpretieren und zu beschreiben. Deshalb empfehlen wir, dass andere ähnliche Sentinel-Überwachungs-Systeme ebenfalls diese Art Information erheben.

Résumé

L'étude de prévalence VIH dans le Réseau suisse des policliniques de dermatologie: buts, caractéristiques et résultats (1990–1996)

Le Réseau suisse des Policliniques de Dermatologie (RSPD) suit la prévalence du VIH chez les patients atteints d'une maladie sexuellement transmissible (MST) depuis janvier 1990. Un questionnaire a été envoyé à chaque policlinique dans le réseau (Bâle, Berne, Genève, Lausanne, et deux à Zurich) pour collecter des informations sur leur participation à l'étude et les caractéristiques du RSPD. Les résultats montrent que les six policliniques ont suivi le protocole de l'étude d'une manière uniforme et qu'elles ont une organisation et une logistique similaires. La prévalence de l'infection au VIH dans cette population était élevée (1.6% chez les hétérosexuels, 24.0% chez les hommes homo/bisexuels et 35.7% chez les personnes s'injectant des drogues), est restée stable, et varie considérablement selon la policlinique. En conclusion, nous avons trouvé que les policliniques ont correctement mis en œuvre le protocole de l'étude de prévalence du VIH et que le RSPD est un système de surveillance sentinelle homogène. La connaissance de l'organisation et des caractéristiques du RSPD nous permet de mieux interpréter et présenter nos données. Nous recommandons donc que ce genre d'information soit également collecté par d'autres systèmes de surveillance sentinelle de ce type.

References

1 Batter V, Van der Heyden J, Sasse A, Stroobant A. and the European Study Group. European Networks for the Surveillance of HIV infections in Sentinel populations of STD patients, a Concerted Action project of the European Communities (DG XII) Brussels: evaluation report. Scientific Institute for Public Health – Louis Pasteur. December 1997.

2 Quinn TC, Cannon RO, Glasser D, et al. The association of syphilis with risk of human immunodeficiency virus infection in patients attending sexually transmitted disease clinics. Arch Intern Med 1990; *150*:1297–1302.

3 Paget WJ, Zwahlen M, Eichmann A, Marti B. Condom use among patients attending six STD clinics in Switzerland, 1990–1993. Sex Transm Dis 1995; *22*:303–309.

4 Office fédéral de la santé publique/Bundesamt für Gesundheitswesen. Prévalence de l'infection à VIH et maladies sexuellement transmissibles en Suisse, 1990–1992/Die Prävalenz von HIV-Infektionen und sexuell übertragbaren Krankheiten in der Schweiz, 1990–1992. Bulletin OFSP/BAG 1993; *29*:518–525 [in French and German].

5 Gebhardt M, Paget WJ. Sexually transmitted diseases acquired whilst travelling abroad. AIDS in Europe – The Behavioural Aspect; Vol 2: 259–269. Berlin: Edition Sigma, Rainer Bohn Verlag, 1995.

6 Gebhardt M. Sida et VIH en Suisse: Situation épidémiologique, Fin 1997/Aids und HIV in der Schweiz: Epidemiologische Situation, Ende 1997. Berne/Bern: Office fédéral de la santé publique/Bundesamt für Gesundheit, 1998.

7 Moreau-Gruet F, Dubois-Arber F. Les hommes aimant d'autres hommes. Etude 1994. Lausanne: Institut universitaire de médecine sociale et préventive, 1995 (Cah Rech Doc IUMSP, no 120.5).

8 Paget WJ, Zwahlen M, Eichmann AR, and the Swiss Network of Dermatovenereology Policlinics. Voluntary confidential HIV testing of STD patients in Switzerland, 1990–1995: HIV test refusers cause different biases on HIV prevalences in heterosexual and homo/bisexuals. Genitourinary Medicine 1997; *73*:444–447.

9 Paget WJ, Zimmermann H-P. Surveillance of sexually transmitted diseases in Switzerland, 1974–1994: Evidence of declining trends in gonorrhoea and syphilis. Soz Präventivmed 1997; *42*:30–36.

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