

Assessment of voluntary HIV screening for asylum seekers in two Swiss cantons

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Summary

OBJECTIVE: To evaluate the feasibility of HIV screening, offered to newly arrived asylum seekers in the Swiss cantons of Valais (VS) and Vaud (VD) in order to meet the national and international standards for early detection and effective treatment of HIV infections.

METHODS: HIV screening was offered free of charge to every asylum seeker who arrived from June 2015 to November 2016 in VS, and from June to October 2016 in VD. Pregnant women and children <16 were excluded. Written consent was required in VS through multi-language forms, whereas VD required oral consent obtained with the help of interpreters.

RESULTS: 807 asylum seekers were offered HIV testing (VS 451, VD 356). Their mean age was 27.6 years, 61.2% were male, 67.4% were single, 60.8% arrived from sub-Saharan Africa. The overall proportion that accepted HIV screening was 72.2% (VS 63.2%, VD 83.7%). Prevalence of HIV infection was 0.87% (two newly and five previously diagnosed persons). Multivariable analysis found that a higher proportion accepted HIV testing among asylum seekers originating from sub-Saharan Africa, men, and those arriving in VD.

CONCLUSIONS: The acceptance of HIV screening among asylum seekers was high and appeared to respond to a real demand among this vulnerable population, particularly among those coming from high endemic regions. It may help guaranteeing an equitable access to the local health care system. Ways to reach a high testing rate should still be explored, taking available and necessary resources into account.

Key words: public health, voluntary HIV screening, asylum seekers

Introduction

In 2017, 36.9 million people worldwide were living with HIV, 940,000 died of AIDS and 1.8 million were newly infected, including in Europe and Switzerland [1–3]. In recent years, national and international organizations have

developed strategies to fight this epidemic. The “90–90–90” strategy of the joint United Nations program on HIV/AIDS (UNAIDS) aims to achieve the following goals: “90% of people living with HIV know their status, 90% of people living with HIV who know their status are receiving antiretroviral treatment (ART) and 90% of people on treatment have suppressed viral loads”. This would mean healthier patients and potentially the end of the HIV epidemic [4].

Indeed, ART not only improves the quality of life and the life expectancy of infected people, but also prevents onward transmission of HIV [5]. Accordingly, the World Health Organization (WHO) and UNAIDS recommend enlarged screening to better detect HIV infection and to treat every infected person as soon as possible after diagnosis, irrespective of his/her degree of immunodeficiency [4, 6]. In Switzerland, a recent study estimated that only 81% of people infected with HIV are aware of their status, showing that the UNAIDS “90-90-90” target has not been reached [7]. In 2015, the Swiss Federal Office of Public Health published guidelines for targeted HIV screening by physicians [8]. Besides clinical situations, these guidelines also mention epidemiological risks, such as a sub-Saharan African origin, that should motivate HIV testing. This policy implies contact with a physician and does not consider the systematic offer of HIV testing to migrants arriving in Switzerland. Indeed, unlike tuberculosis, HIV is rarely part of national screening programs for infectious diseases among migrants arriving in Europe [9].

The present study investigates the feasibility of a voluntary HIV screening program for forced migrants, who constitute one of the populations identified as at risk in Switzerland, together with men who have sex with men (MSM), drug injectors and sex workers [3]. Indeed, migration increases people's vulnerability to HIV. Sexual violence and rape are more frequent during migration, and the disruption of social and family norms results in riskier sexual behaviours [10]. Furthermore, access to health care and HIV screening is problematic for asylum seekers because of costs, language barriers and uncertain socio-economic status, which can dissuade them from being tested [11].

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Methods

Population

After authorization by the Vaud-Valais Cantonal Commission for the Ethics of Human Research (protocol number 344/15), the study was conducted between November 2015 and June 2016 in the canton of Valais (VS; 340,000 inhabitants; 2,955 asylum seekers in 2016), and between June 2016 and October 2016 in the canton of Vaud (VD; 780,000 inhabitants; 6,602 asylum seekers in 2016). Both cantons represent approximately 13% of the Swiss population.

Intervention

During these two periods, every newly arrived adult (>16 years), non-pregnant asylum seeker was given information about the possibility of a free-of-charge HIV screening test that was done during routine visits already in place for this population in both cantons. Pregnant women underwent routine HIV screening during their follow-up by gynaecologists. For willing participants, HIV screening was performed with a 4th generation diagnostic test (Elecsys HIV combi PT, Roche Diagnostics). All those who accepted the screening completed HIV testing. This was in addition to screening for hepatitis B, which was already in place in these two cantons.

In Valais (VS), asylum seekers were seen two to three times over a three month period by nursing personnel from the Department of Infectious Diseases of the Central Institute to update their vaccines. Prior to their visit, asylum seekers received a written information sheet translated into several languages (French, German, English, Arabic, Tamil and Tigrinya) explaining the possibility of undergoing voluntary HIV testing. Those willing to take the test signed the consent form and filled in a brief questionnaire. Serologies were performed in a single hospital laboratory. Negative serological results were given at the second visit. Participants with positive serologic results were given their test results within two days by infectious disease physicians who took care of them with counselling, additional examinations and antiretroviral therapy.

In Vaud (VD), nurse practitioners from the Vulnerable Population Centre of the Department of Ambulatory Care and Community Medicine conducted a 30-minute comprehensive interview with each new asylum seeker with the help of an interpreter to determine their medical needs. They then updated their vaccines, completed a questionnaire and obtained oral informed consent for HIV screening. For those who reported having unprotected sexual intercourse, a follow-up appointment was arranged to facilitate repeat HIV testing in three months' time. Trained nurses informed participants of their results within two days, and arranged an appointment with an infectious diseases physician on the day of this information for those who tested positive for HIV. Serologies were subcontracted to different laboratories, depending on the location where the asylum seekers lived.

Statistics

Anonymized data were entered into an electronic database. They included gender, age, civil status, country of origin, result of HIV test, and the canton in which it had been per-

formed. Differences between those who accepted the test and those who did not were first analyzed using a T-test, Fisher's exact test or Chi-squared test as appropriate. Variables with a significant p value in univariate analysis were entered as covariates in a logistic regression model for multivariable analysis of the factors associated with the acceptance of HIV screening. Statistics were performed with Stata software (Stata Corp. LCC, Texas, USA). All tests were two-tailed. $P < 0.05$ was considered significant.

Results

In total, 807 asylum seekers were offered HIV testing: 451 (55.9%) in VS and 356 (44.1%) in VD. [Table 1](#) shows their characteristics. The most frequent countries of origin were Eritrea (37.04%), Afghanistan (9.88%), Syria (9.88%) and Somalia (7.28%); 60.8% came from sub-Saharan Africa. Five hundred and three (72%; VS 285/451, 63% vs VD 298/356, 84%) accepted the HIV screening test.

[Table 2](#) shows the results of univariate analysis. In comparison to asylum seekers who did not accept and undergo HIV screening, those who did were younger (27.6 vs 28.7 years old; $p = 0.046$), more often male (76.5% of men accepted vs 65.5% of women; $p < 0.001$), more often of sub-Saharan African origin (77.5% accepted vs 64.1% for other origins; $p < 0.001$) and arrived more often in VD than in VS (83.7% accepted vs 63.2%; $p < 0.001$). Civil status was not significantly associated with the acceptance of an HIV screening test. [Table 3](#) presents the multivariable logistic regression analysis assessing factors associated with acceptance of HIV screening. Male gender, sub-Saharan African origin and arriving in VD remained independently associated with the acceptance of HIV screening. In contrast, age was no longer significantly associated with testing acceptance.

Seven asylum seekers (0.87%) were diagnosed HIV positive by the screening, five of whom had been previously diagnosed with HIV. Their mean age was 33.7 years (range: 22–51), four were women, five were of sub-Saharan African origin.

Discussion

As found in other countries according to a recent systematic review by Seedat et al. [9], this pilot study revealed that the majority of asylum seekers arriving in two Swiss cantons decided to undergo HIV screening when offered a free-of-charge blood test coupled with screening for hepatitis B. Indeed, 72.2% took the HIV test in our study compared to a median uptake of 81.5% (range: 77.1–96.8) in studies from England and Belgium reviewed by Seedat et al. [9]. However, according to this comprehensive review, most screening programs focus on tuberculosis and few data are available for HIV. The Swiss canton of Geneva initiated a voluntary counselling and testing program for HIV in 2007, but to our knowledge its results have not been published [12]. A recent study found no HIV infection among 107 Eritrean refugees newly arrived in Switzerland [13]. Compared to previous findings from England and Belgium, where screening detected HIV in 1.20% to 4.81% of migrants [9], few infected persons were found in our study (0.87%). These could rapidly be seen by infectious diseases physicians and start antiretroviral

Table 1: Characteristics of the study population.

Characteristic		Valais (n = 451)	Vaud (n = 356)	Total (n = 807)
Mean age, years (SD)		28.3 (10.1)	26.7 (9.4)	27.6 (9.8)
Gender, n (%)	Female	219 (48.5)	94 (26.4)	313 (38.8)
	Male	232 (51.5)	262 (73.6)	494 (61.2)
Civil status*, n (%)	Single	121 (48.8)	286 (80.3)	407 (67.4)
	Married	124 (50.0)	63 (17.7)	187 (31.0)
	Widowed	0 (0.0)	4 (1.1)	4 (0.6)
	Divorced	3 (1.2)	3 (0.9)	6 (1.0)
Origin*, n (%)	East Africa	264 (58.9)	148 (41.7)	412 (51.3)
	East Asia	18 (4.0)	8 (2.2)	26 (3.2)
	Eastern Europe	8 (1.8)	7 (2.0)	15 (1.9)
	Central Africa	4 (0.9)	17 (4.8)	21 (2.6)
	North Africa	4 (0.9)	22 (6.2)	26 (3.2)
	South Asia	53 (11.8)	52 (14.7)	105 (13.1)
	West Africa	11 (2.5)	44 (12.4)	55 (6.8)
	West Asia	86 (19.2)	55 (15.5)	141 (17.6)
	Central Asia	0 (0.0)	2 (0.5)	2 (0.3)
Sub-Saharan Africa*, n (%)	Yes	279 (62.3)	209 (58.9)	488 (60.8)
	No	169 (37.7)	146 (41.1)	315 (39.2)

*Totals for each characteristic may differ because of missing values

Table 2: Univariate analysis of factors associated with the acceptance of HIV screening.

Characteristic		HIV test	No HIV test	OR (95% CI)	p-value
Canton, n/total (%)	Vaud (VD)	298/356 (83.7)	58/356 (16.3)	VD vs VS 2.99 (2.13–4.21)	<0.001
	Valais (VS)	285/451 (63.2)	166/451 (36.8)		
Mean age years		27.6 ± 9.2	28.7 ± 11.1	–	0.046
Gender, n/total (%)	Female	205/313 (65.5)	108/313 (34.5)	Man vs woman 1.72 (1.26–2.35)	<0.001
	Male	378/494 (76.5)	116/494 (23.5)		
Civil status, n/total (%)*	Single	235/286 (82.2)	51/286 (17.8)	Single vs other 0.51 (0.22–1.18)	0.158
	Other	63/70 (90.0)	7/70 (10)		
Sub-Saharan African origin, n/total (%)	Yes	378/488 (77.5)	110/488 (22.5)	Yes vs no 1.92 (1.41–2.63)	<0.001
	No	202/315 (64.1)	113/315 (35.9)		

*The civil status was available irrespective of acceptance only in the canton of Vaud

Table 3: Multivariable analysis of factors associated with the acceptance of HIV screening.

Variable	Adjusted OR	95% CI	p-value
Age (per each additional year)	1.001	0.98–1.02	0.865
Sex (male vs female)	1.430	1.03–1.98	0.032
Origin (sub-Saharan Africa vs other)	2.115	1.50–2.96	<0.001
Canton (VD vs VS)	2.936	2.05–4.20	<0.001

The four variables found to be significant in univariate analysis (table 2) were used as covariates: age, sex, origin and canton

therapy (ART), or could avoid a prolonged interruption to ART and medical follow-up if they already knew they were HIV-positive.

Interestingly, those coming from regions known for a high prevalence of HIV infections (i.e. sub-Saharan Africa) were more likely to accept HIV screening. Such a program could thus help to improve compliance with current international and Swiss guidelines, providing vulnerable populations at risk of HIV with quicker and better access to healthcare and contributing to the 90-90-90 policy aiming at ending the HIV epidemic. It would also help to avoid late diagnosis of HIV, a common problem in migrants living in Europe, particularly among women, as showed in a recently published study [14]. Indeed, we found that women were less likely than men to accept HIV screening. Thus, ways to increase the proportion of migrant women arriving in Switzerland who accept HIV testing should be explored in future research in order to facilitate their early access to ART. Routine screening for HIV in asylum

seekers does not guarantee long-term access to ART for those who must return to their countries of origin. However, ART is increasingly available around the world and those living with HIV aware of their status tend to reduce risky sexual behaviour [15].

This study also revealed differences between the two systems studied. In the canton of Vaud (VD), an individualized and comprehensive medical interview in the presence of an interpreter took place for each asylum seeker and oral consent was obtained. In the canton of Valais (VS), multi-lingual information forms were provided before medical visits for vaccine catch-ups, done without interpreters, and written consent was obtained. Although a larger proportion accepted HIV testing in VD compared to VS, the latter performed approximately as well as the former during the first months of the study and was easier to implement. Notably, due to a misunderstanding, some asylum centres interrupted the distribution of the information forms, resulting in a drop in screenings (from close to 80% to about 50%). Ef-

forts are needed to inform asylum seekers about the possibility of being screened for HIV. Once they know about it, most of them would opt for it. Achieving a genuinely informed consent in this population may be challenging. Indeed, obtaining a written consent implies reading abilities, whereas oral consent may be influenced by the person asking for it or by the interpreter. Perhaps an intermediate model between the high performing, resource intense VD system and the VS system may be the best strategy for regions with limited resources. Moreover, according to a recent systematic review of different testing strategies in Europe, a rapid HIV testing approach, which was not used in our study, may improve access and uptake of testing in migrants and be more cost-effective [16].

This study has some limitations. Firstly, it was conducted in two cantons only. Although it allowed for comparison of the HIV screening intervention in two different systems, these two cantons may not be representative for Switzerland or for other countries. Secondly, the prevalence of HIV-infected persons among newly arriving asylum seekers in our study and their characteristics may not be representative for various reasons. Indeed, about 30% of asylum seekers did not undergo HIV screening and some among them might have declined the offer because, despite being at risk, they feared a positive test result, as a study from Belgium showed in sub-Saharan African migrants [17]. In addition, there are temporal and geographic variations in the origins of migrants arriving in host countries and the results of this study may have been different elsewhere or at another time. Moreover, this study targeted only officially registered asylum seekers. Other migrants may present different characteristics and risks.

Screening for HIV is feasible for asylum seekers arriving in Swiss cantons. It is fully justified from both ethical and public health perspectives. Health authorities should analyze ways to implement a sustainable voluntary HIV testing program in this vulnerable population.

Acknowledgments

The authors acknowledge the important contribution of the collaborators, the Department of Infectious Diseases of the Valais Hospital in Sion and the Vulnerable Population Centre of the Department of Ambulatory Care and Community Medicine in Lausanne. They also acknowledge the appreciated participation of the social workers of both cantons.

Funding sources and conflicts of interests

Both cantons funded the study for laboratory tests. It was presented as a poster at the 2017 annual meeting of the Swiss Society of Infectious Disease in Basel. None of the authors have conflicts of interest to declare.

References

- UNAIDS. Global update 2018. Miles to go: closing gaps, breaking barriers, righting injustice. Available from: http://www.unaids.org/sites/default/files/media_asset/miles-to-go_en.pdf (accessed November 15, 2018)
- European Centre for Disease Prevention and Control. HIV testing: increasing uptake and effectiveness in the European Union. Stockholm: ECDC; 2010. Available from: http://ecdc.europa.eu/en/publications/Publications/101129_GUI_HIV_testing.pdf (accessed November 15, 2018)
- Office fédéral de la santé publique (OFSP). Section Migration et santé. Programme national Migration et santé. Bilan 2008–2013 et axes prioritaires 2014–2017. OFSP 2013. Available from: <https://www.bag.admin.ch/bag/fr/home/strategie-und-politik/nationale-gesundheitsstrategien/gesundheitsliche-chancengleichheit/programm-migration-und-gesundheit-2002-2017.html> (accessed November 15, 2018)
- Programme commun des Nations Unies sur le VIH/sida (ONUSIDA). Accélérer la riposte: mettre fin à l'épidémie de Sida d'ici à 2030. Genève 2014. Available from: http://www.unaids.org/fr/resources/documents/2014/JC2686_WAD2014report (accessed November 15, 2018)
- Cohen MS, Chen YQ, McCauley M, Gamble T, Hosseinipour MC, Kumarasamy N, et al.; HPTN 052 Study Team. Prevention of HIV-1 infection with early antiretroviral therapy. *N Engl J Med*. 2011;365(6):493–505. doi: <http://dx.doi.org/10.1056/NEJMoa1105243>. PubMed.
- World Health Organization. Guideline on when to start antiretroviral therapy and on pre-exposure prophylaxis for HIV. September 2015. Available from: http://apps.who.int/iris/bitstream/handle/10665/186275/9789241509565_eng.pdf (accessed November 15, 2018)
- Kohler P, Schmidt AJ, Cavassini M, Furrer H, Calmy A, Battegay M, et al.; Swiss HIV Cohort Study. The HIV care cascade in Switzerland: reaching the UNAIDS/WHO targets for patients diagnosed with HIV. *AIDS*. 2015;29(18):2509–15. doi: <http://dx.doi.org/10.1097/QAD.0000000000000878>. PubMed.
- Office fédéral de la santé publique. Dépistage du VIH effectué sur l'initiative des médecins. *Bull OFSP*. 2015;21:375–9.
- Seedat F, Hargreaves S, Nellums LB, Ouyang J, Brown M, Friedland JS. How effective are approaches to migrant screening for infectious diseases in Europe? A systematic review. *Lancet Infect Dis*. 2018;18(9):e259–71. doi: [http://dx.doi.org/10.1016/S1473-3099\(18\)30117-8](http://dx.doi.org/10.1016/S1473-3099(18)30117-8). PubMed.
- Martin SF, Tirman J, eds. Women, migration, and conflict: breaking a deadly cycle. Dordrecht; New York: Springer; 2009.
- Alvarez-del Arco D, Monge S, Azcoaga A, Rio I, Hernando V, Gonzalez C, et al. HIV testing and counselling for migrant populations living in high-income countries: a systematic review. *Eur J Public Health*. 2013;23(6):1039–45. doi: <http://dx.doi.org/10.1093/eurpub/cks130>. PubMed.
- Durieux-Paillard S, Tardin A, Wetzel D. HIV voluntary counselling and testing (VCT) among migrants in Geneva (Switzerland): implementation of a new prevention programme. *Wonca 2007 Paris*, abstract 637. Available from: <http://www.woncaeurope.org/content/637-hiv-voluntary-counselling-and-testing-vct-among-migrants-geneva-switzerland> (accessed November 15, 2018)
- Chernet A, Neumayr A, Hatz C, Kling K, Sydow V, Rentsch K, Utzinger J, et al. Spectrum of infectious diseases among newly arrived Eritrean refugees in Switzerland: a cross-sectional study. *Int J Public Health*. 2018;63(2):233–9. doi: <http://dx.doi.org/10.1007/s00038-017-1034-x>. PubMed.
- Fakoya I, Álvarez-Del Arco D, Monge S, Copas AJ, Gennotte AF, Volny-Anne A, et al.; aMASE Study Team. HIV testing history and access to treatment among migrants living with HIV in Europe. *J Int AIDS Soc*. 2018;21(Suppl 4):. doi: <http://dx.doi.org/10.1002/jia2.25123>. PubMed.
- Marks G, Crepaz N, Senterfitt JW, Janssen RS. Meta-analysis of high-risk sexual behavior in persons aware and unaware they are infected with HIV in the United States: implications for HIV prevention programs. *J Acquir Immune Defic Syndr*. 2005;39(4):446–53. doi: <http://dx.doi.org/10.1097/01.qai.0000151079.33935.79>. PubMed.
- Pottie K, Lotfi T, Kilzar L, Howeiss P, Rizk N, Akl EA, et al. The effectiveness and cost-effectiveness of screening for HIV in migrants in the EU/EEA: a systematic review. *Int J Environ Res Public Health*. 2018;15(8):1700. doi: <http://dx.doi.org/10.3390/ijerph15081700>. PubMed.
- Manirankunda L, Loos J, Alou TA, Colebunders R, Nöstlinger C. “It’s better not to know”: perceived barriers to HIV voluntary counseling and testing among sub-Saharan African migrants in Belgium. *AIDS Educ Prev*. 2009;21(6):582–93. doi: <http://dx.doi.org/10.1521/acap.2009.21.6.582>. PubMed.