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Review article

Implementing and expanding HIV testing in immigrant populations in Europe: Comparing guideline's recommendations and expert's opinions



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ABSTRACT

Immigrant populations, especially those from endemic countries, living in the European Union (EU) suffer a disproportionate burden of HIV, delayed diagnosis and poorer access to antiretroviral treatment. While International Organisations are developing recommendations aimed at increasing the uptake of HIV testing, the feasibility and real outcomes of these measures remain unexplored. The aim of this review was, firstly to identify the recommendations of the main International Organisations (IO) on HIV testing in immigrants. Secondly, to describe the challenges for implementing and expanding HIV testing and counselling interventions targeting immigrants by interviewing key informants. The importance of HIV testing in immigrants is discussed, along with the appropriateness of universal HIV testing approaches vs most at risk targeted approaches. Also addressed is, pre- and post-HIV test counselling characteristics and community initiatives suitable to reach this population and, finally the legal issues regarding access to treatment for illegal immigrants.

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Implementación y expansión de la prueba de VIH en población inmigrante en Europa: confrontación de las recomendaciones de las guías con las opiniones de los expertos

RESUMEN

Las poblaciones inmigrantes que viven en la Unión Europea, especialmente las originarias de países endémicos, sufren una carga desproporcionada de VIH, retraso diagnóstico y barreras de acceso al tratamiento antirretroviral. Mientras las organizaciones internacionales desarrollan recomendaciones para expandir el test de VIH, la factibilidad y los resultados reales de las medidas propuestas están aún por explorar. El objetivo de esta revisión es, en primer lugar, identificar las recomendaciones de los organismos internacionales sobre prueba de VIH a poblaciones inmigrantes. En segundo lugar, nuestro objetivo es describir los retos para implementar y expandir la prueba y el consejo de VIH dirigido a inmigrantes a través de entrevistas con informantes clave. En este artículo describimos la importancia de realizar la prueba en inmigrantes y discutimos la adecuación de las estrategias de cribado de VIH universal, frente a las estrategias de prueba dirigidas a colectivos en situación de especial vulnerabilidad. También se

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abordan las características del consejo previo y posterior a la prueba y las iniciativas desde la comunidad para alcanzar a esta población. Finalmente, analizamos cuestiones legales sobre el acceso al tratamiento de los inmigrantes en estatus ilegal.

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Introduction

HIV delayed diagnosis remains a major public health issue across Europe and worldwide.^{1,2} In many EU countries, migrants in particular have been found to be diagnosed late with HIV and to have poorer access and/or uptake of combination antiretroviral therapy (cART) than native populations.^{3–6} Data from the European Centre for Disease Prevention and Control (ECDC) shows that in 2013 the proportion of late HIV diagnosis (CD4 count <350 cells/mm³ at diagnosis) was higher among migrants from countries with generalized epidemics (59%) compared to people who inject drugs (52%) and men who have sex with men (MSM) (37%).¹ Several international organizations have recently published guidelines that underline the importance of promoting HIV testing as the basis for ensuring universal access to treatment and care.^{3,7,8} Administrative,^{9–12} legal,^{13,14} language^{13–18} and cultural barriers^{9,11,14,15,19} have been reported as obstacles in accessing HIV testing services among migrant populations.

In the European Union/European Economic Area (EU/EEA), two main approaches have been identified aimed at promoting HIV testing²⁰: general population approaches in health-care settings and targeted approaches aimed at key populations. The first approach is based on the success of antenatal screening – a strategy that has achieved excellent coverage of HIV testing including migrant and ethnic minority women.²¹ Within the second approach, different and innovative interventions have been developed including offering HIV rapid testing in non-traditional health-care settings and outside normal working hours²²; provision of point-of-care testing by non-governmental organizations (NGOs) and community-based organizations (CBOs) and testing by outreach services, mobile clinics and other non-clinical settings, such as hair salons or sporting events among others.^{23–25} The feasibility and benefits of targeted approaches however remains largely unexplored.

This review firstly aims to identify the main International Organizations (IO) recommendations about HIV testing in migrants. Reviewed documents were issued by World Health Organization,^{8,26,27} ECDC,⁷ International Organization for Migration (IOM)²⁸ and International Labour Organization (ILO), IOM and Joint United Nations Programme on HIV/AIDS (UNAIDS).²⁹ Secondly, this article intends to describe the challenges for implementing and expanding these strategies interviewing 24 key informants from both governmental and non-governmental organizations. Participants were mainly academics researchers with a recognized career, policy makers from EU countries and NGO's representatives working on HIV from Belgium, France, Germany, Italy, Portugal, Spain, Sweden USA and UK. Individual and group interviews were performed.

The importance of HIV testing in migrants: universal HIV screening vs targeted approaches

Most documents explicitly identify the benefits of HIV testing at individual and community level. The benefits derived from cART uptake are noted; overall increase of life expectancy, decrease of morbidity and mortality and reduction of mother to child transmission; testing HIV positive can also lead to behaviour change and

prevention of further HIV transmission. On the same line, the reduction in HIV viral load – and thus transmission risk – derived from cART uptake is one of the main benefits at community level. The 2010 WHO Guide⁸ states: “the importance of this for HIV prevention is enhanced in settings where antiretroviral treatment (cART) is available and accessible to all who need it, given its value in reducing viral load and the amount of virus circulating in the community”. This recommendation is not necessarily directed towards the whole population, but can target people with high risk exposure when the HIV epidemic is concentrated in “key populations at risk”.

Key informants from Belgium, Italy, Portugal, and Spain said they were discussions at country level as to whether move towards incorporating opt-out routine HIV testing for the general population. In general, participants underlined the need to frame at a global level the aforementioned initiatives and to address other complex issues as well:

“Individual strategies to fight HIV are necessary but not sufficient. We must address the social determinants of health such as poverty, access to health care, racism and discrimination” (Policy Maker).

Targeted approaches were considered as more cost effective by some of the interviewees. However, a number of participants believed that a general population approach may be more acceptable to service providers and users. Service providers prefer to offer screening for medical reasons. Service users may perceive HIV testing that is offered to people on the basis of the colour of their skin or their country of origin as discriminatory.

“Epidemiologically and financially it makes sense to talk of high prevalence groups – for example, migrants from SSA (Sub-Saharan Africa) and MSM – but it does not make sense in terms of delivering services and the risk of discrimination and stigma. The history of migrants is different from that MSM. The latter had a solid network of solidarity that helped them to withstand potential stigma and discrimination, whereas migrants do not. Although it is tempting epidemiologically to target them as a group, the strategy needs to be embedded in the general population” (Group interviewee).

In fact, a number of respondents identified the success of antenatal testing of HIV as a good example of how an opt-out approach was a strategy that has led to dramatic reductions in mother to child HIV transmission across Europe. It was also pointed out that recommendations based on HIV testing within health care settings may not reach the most vulnerable as often people may not access health care services.

Identifying migrants as candidates for HIV test

All reviewed international guidelines identify migrants as at risk for HIV infection but only three^{8,27,28} explicitly recommend testing them for HIV infection, as seen in [Table 1](#).

The 2010 ECDC guideline in the chapter “Whom to test?” recommends each country to know its epidemic and identify groups most at risk. Among the groups considered especially at risk for HIV, migrants are included (especially those from countries with higher prevalence).

However, targeting migrants for HIV testing has potential disadvantages, especially for migrants who may face unique legal

Table 1
Documents that recommend HIV testing migrants and ethnic minorities.

Document	Subjects identified as candidates for HIV test
2008 European Guideline on HIV Testing (IUSTI, 2008)	Individuals who had sexual exposure in countries with a high HIV prevalence Migrants and refugees
Guidance on provider-initiated HIV testing and counselling in health facilities. (WHO, UNAIDS, 2007) ²⁷	
Scaling up HIV testing and counselling in the WHO European Region. (WHO, 2010) ⁸	Migrants/mobile populations; ethnic/national minorities. Healthcare settings and other community settings
HIV testing: increasing uptake and effectiveness in the European Union. (ECDC, 2010) ⁷	Migrants (especially those from high HIV prevalence countries)

and administrative barriers compared to the general population. Among the disadvantages described were the dangers of coercive testing, with implications on residency permits, fear of deportation and lack of rights to access treatment and care for irregular migrants. Fear of discrimination and deportation were quoted by various interviewees as the strongest barrier to HIV testing in migrant populations. Discussions around the stigma and fear of discrimination surrounding HIV infection repeatedly came up. This is a particular concern in migrant communities where many rely on the support from their own community network for day to day survival. Criminalization of HIV transmission was also mentioned and how legal rulings were felt to have disproportionately affected migrants from Sub-Saharan Africa (SSA) in some countries.

“Stigma around HIV in the countries of origin of some migrants is very strong and perhaps they bring it with them when they move to a new country. (...) When an HIV-positive result is given, there is a brutal drop in self-esteem, because the previous concept that they had had about HIV was so negative. If this can be true for most of the population, for some immigrants it is even worse.” (NGO representative).

The importance of counselling, pre and post-test information

Guides elaborated by IUSTI, IOM, WHO, ECDC and UNAIDS collect practical information about the desirable contents of pre- and post-test counselling. IOM has developed a specific document for counsellors: IOM Guide for HIV Counsellors,²⁸ in which the characteristics and content of counselling process are carefully specified.

Regarding pre-test counselling, ECDC considers that a brief pre-test discussion, about the benefits of testing and practical arrangements for taking the test and giving results, would be effective to increase HIV testing uptake. IUSTI states that the main objective of this phase is to obtain informed consent and establish a pre-test discussion about HIV issues with the client, while IOM considers that pre-counselling is the best opportunity to educate and inform individuals on HIV and AIDS. In the IOM guide, this moment is weighed up as a process that can help to reduce stigma in the community. Guidelines developed by WHO and UNAIDS are based on PITC (Provider-initiated testing and counselling), and the principal aim of this stage is to discuss with the patient the reasons of HIV testing recommendation. This guide states that counselling can be performed both individually and in a group session.

Among key informants there were mixed opinions about pre-test counselling length. Many participants felt it was a good strategy as lengthy pre-test counselling may dissuade people from testing. Some participants consider that migrants can be overwhelmed by

the different issues and events related to their adaptation to a new country making them avoid time-consuming activities; besides, the concept of counselling might not necessarily be understood by most of them. On the other hand, some participants fear that an abbreviated counselling might be insufficient to tackle migrants' misconceptions regarding HIV infection.

Guidelines consider post-test counselling as a part of HIV testing process regardless of test result, although content varies depending on the result. Overall, for those testing negative, this moment would be employed to stress health benefits of prevention strategies. For positive results, post-counselling has to satisfy all questions related with care referral, information about transmission routes and risk behaviours. Moreover, at this stage the individuals should be given information on key institutions or other resources that can provide them with emotional support to cope with the result.

Legal issues regarding access to treatment

One of the objectives proposed by the Dublin Declaration (2004)²⁶ was “By 2005, provide universal access to effective, affordable and equitable prevention, treatment and care including safe anti-retroviral treatment to people living with HIV/AIDS in the countries in our region”. Despite efforts made in this direction, there are still many countries in which migrants of uncertain status have no formal access to HIV treatment.

The 2010 WHO guidelines⁸ and the ECDC guidance⁷ state that testing by itself is not the goal: countries have to provide treatment, care and support to all individuals diagnosed with HIV. Countries have to ensure care and referral to those individuals tested. The document of WHO expresses concern about the lack of treatment in many countries of the region, especially for the most marginalized populations like migrants, and stresses the need to expand cART coverage to these vulnerable populations.

In this same sense, participants felt that promotion of HIV testing for migrants of uncertain residency when access to ART is not guaranteed was an important issue that raised a number of ethical questions. The unanimous feeling was that HIV testing must be linked to care for the programme to be effective. However, interviewees also acknowledged that, unfortunately even in Europe, there are some irregular migrants that are not entitled to antiretroviral treatment. There were mixed views on what to do in these circumstances which ranged from not recommending HIV testing unless access to antiretroviral medication can be guaranteed to recommending the test in spite of this while highlighting the need of trust building and avoidance of paternalism.

“It makes no sense to perform the test when the disclosure of a positive result does not guarantee access to care (...). Denying access to care is opposite to Human Rights Declaration, in which access to health care is guaranteed to all individuals. It is a paradox to allow the person to access the test and then not allowing them to be treated” (Academic researcher).

“HIV testing on its own has been proven to be good, it has been shown to be beneficial in reducing unsafe sexual behaviour and thus, decreasing HIV transmission. Besides, even if cART may not be entitled, other supportive care aspects can be provided such as prophylaxis and treatment against opportunistic infections” (Policy maker).

On-going initiatives promoting HIV testing in the community targeting migrants and ethnic minorities

ECDC guidance consider that to reach migrants will require expanding testing not only in clinical settings but in a number of community settings.⁷ The document “Scaling up HIV testing and counselling in the WHO European Region”⁸ points out the existing

barriers to access traditional health services for most-at-risk populations. Strategies aimed at increasing access and uptake of HIV testing has to be developed. The community's participation in the design of interventions is necessary in order to identify adequate and acceptable practices related with HIV testing.²⁷ Examples proposed by documents, based on client-initiated strategy, include outreach programmes: services by mobile clinics or in community settings. The principle behind it is to offer the HIV test “where they are”, through non-governmental and community-based organizations.

ILO guide addresses the importance of “ensuring, through funding public-health services, non-governmental and private organizations that international labour migrants and their families have the same access as nationals to HIV prevention, treatment, care and support programmes which are sensitive to gender and culture, and in a language or medium the migrant worker can understand”.²⁹

Promoting HIV testing in the community was viewed as one of the key aspects to the success of the implementation of guidelines for interviewed participants. Developing point of care testing (POCT) within CBOs and NGOs was seen as an excellent initiative by most respondents. Participants stressed the need to find strategies that were flexible, allowing migrants to access HIV tests in their community organizations', while ensuring quality across the testing process. Confidentiality, post-test counselling and immediate linkage to specialist HIV care were identified as needing to be guaranteed and all testing initiatives should fulfil all ethical and technical requirements. Some participants consider confidentiality concerns are behind some people not wanting to be tested in their own community, preferring to attend an STD clinic far from their homes. Developing more CBO POCTs that provide people with information about where these sites are located is essential. Unsupervised HIV testing could lead to irregular migrants being forced into being tested without appropriate counselling and health care referrals.

Conclusions

Benefits of expanding HIV testing to reach migrant populations have been recognized by all participants. However, reaching migrants and ethnic minority populations with HIV testing and counselling programmes remains a challenge. Migrants and ethnic minorities are very heterogeneous populations, determined by country of origin, ethnicity, gender, sexual orientation, religion, legal status and time in the country of destination. While some groups of migrants will be reached through general population programmes, other groups of migrants may be reached through more targeted approaches.

Several studies have shown the differential burden of HIV late diagnosis among migrants compared to the autochthonous population,¹ which is of critical importance as it is well-known that late diagnosis is associated with increased morbidity and mortality. Implementing effective and non-discriminatory HIV testing programmes is of utmost importance. HIV testing strategies directed towards the general population have been successfully implemented in antenatal settings, in which HIV testing uptake in migrant women is not different from non-migrants.³⁰ In other settings where strategies for general populations are being implemented,¹² uptake of HIV-test by migrants seems to be successful, though little data are available so far. This strategy avoids the perception of stigmatization associated with risk-group targeted programmes.¹⁰ In most clinical settings HIV testing is offered together with pre-test information and no lengthy pre-test counselling. Interviewees expressed ambivalence as to whether this is adequate for migrant populations as it is felt that a lot of

misconceptions regarding HIV infection can be tackled during counselling sessions, particularly those related to the stigma within the community.

Participants stated engagement with the communities and building partnership is fundamental for testing at community sites and for developing cultural sensitive interventions. The documented barriers to accessing HIV testing services are linked with the overall vulnerability of migrants and ethnic minorities. Additionally, poverty and socio-economical disadvantages result in low priority assignation to health in general and HIV in particular.^{10,13} General population approaches should deal with the heterogeneous sub-population groups of migrants and their perceptions about these general interventions. Traditional gender roles culturally assigned to men and women in some migrant communities may deter heterosexual men and women as well as MSM from HIV testing. While women are reached through antenatal testing, reaching men is more challenging and various initiatives to stimulate partner testing in the context of antenatal testing have been proposed.

Innovative strategies are needed to emphasize community participation. Mentioned options include broadening the scope of facilities performing the test, strengthening proactive testing strategies, putting in place outreach programmes based on community approaches, which could rely on POCT and rapid testing, offering the test where people live, work or spend their leisure time, expanding testing hours and involving NGOs and CBOs. Several studies have shown the benefits of this type of interventions and de-stigmatization of HIV testing within the communities.^{22,23,25} Innovative interventions have demonstrated their effectiveness particularly among migrant MSM, a particularly at-risk group traditionally invisible to HIV prevention activities and facing various and multiple forms of discrimination.²⁴

However, care has to be taken into account when designing an HIV testing programme targeting migrant communities not to further stigmatize this group and to assure that testing is performed with maximum quality.

All interviewees insist in the need of linking HIV testing with care and treatment. The HIV treatment cascade – also referred as “HIV care continuum” – developed in 2010 by Gardner et al.³¹ aimed to identify chances to improve services for people living with HIV across the HIV continuum of care. The final objective of this model would be to achieve hypothetical scenario in which all HIV positive individuals are in treatment, community viral load is suppressed and infectivity of new individuals does not take place. The benefits of HIV testing at the community level is also supported by International Organizations such as WHO and ECDC in their respective HIV testing guidelines.^{7,8} The biggest benefit of HIV testing is attained through universal access to treatment and care, prevention and support services, which must be the basis of the national HIV testing strategies. Furthermore, adequate treatment of HIV does not only have individual benefits, but also prevents HIV transmission and has been demonstrated to be a cost-effective intervention.^{32–34}

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Conflict of interest

The authors declare no conflict of interest.

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References

- European Centre for Disease Prevention and Control and WHO Regional Office for Europe. HIV/AIDS surveillance in Europe 2013. Surveillance report; 2014. Available at: <http://ecdc.europa.eu/en/publications/Publications/hiv-aids-surveillance-report-Europe-2013.pdf> [consulted 23.06.15].
- Hamers FF, Phillips AN. Diagnosed and undiagnosed HIV-infected populations in Europe. *HIV Med.* 2008;9 Suppl. 2:6–12.
- European Centre for Disease Prevention and Control. Migrant health: Access to HIV prevention, treatment and care for migrant populations in EU/EEA countries; 2009. Available at: http://ecdc.europa.eu/en/publications/publications/0907_ter_migrant_health_hiv_access_to_treatment.pdf [consulted 25.07.15].
- European Centre for Disease Prevention and Control. Thematic report: HIV treatment, care and support. Monitoring implementation of the Dublin Declaration on partnership to fight HIV/AIDS in Europe and Central Asia: 2012 progress report; 2013. Available at: http://ecdc.europa.eu/en/publications/_layouts/forms/Publication_DispForm.aspx?List=4f55ad51-4aed-4d32-b960-af70113dbb90&ID=764 [consulted 25.07.15].
- European Centre for Disease Prevention and Control. HIV/AIDS surveillance in Europe in 2013; 2014. Available at: <http://www.ecdc.europa.eu/en/publications/Publications/hiv-aids-surveillance-report-Europe-2013.pdf> [consulted 23.06.15].
- European Centre for Disease Prevention and Control. Thematic report: Migrants. Monitoring implementation of the Dublin Declaration on Partnership to Fight HIV/AIDS in Europe and Central Asia: 2014 progress report; 2015. Stockholm.
- European Centre for Disease Prevention and Control. HIV testing: increasing uptake and effectiveness in the European Union; 2010. Available at: http://ecdc.europa.eu/en/publications/Publications/101129_GUI.HIV_testing.pdf [consulted 08.04.15].
- World Health Organization (WHO). Scaling up HIV testing and counselling in the WHO European Region as an essential component of efforts to achieve universal access to HIV prevention, treatment, care and support; 2010. Available at: http://www.euro.who.int/_data/assets/pdf_file/0007/85489/E93715.pdf [consulted 07.05.15].
- Burns FM, Imrie JY, Nazroo J, Johnson AM, Fenton KA. Why the(y) wait? Key informant understandings of factors contributing to late presentation and poor utilization of HIV health and social care services by African migrants in Britain. *AIDS Care Psychol Socio-Med Asp AIDS HIV.* 2007;19:102–8.
- Lopez-Quintero C, Shtarkshall R, Neumark YD. Barriers to HIV-testing among Hispanics in the United States: analysis of the National Health Interview Survey. *AIDS Patient Care STDs* 2005. 2000;19:672–83.
- Mitra D, Jacobsen MJ, O'Connor A, Pottie K, Tugwell P. Assessment of the decision support needs of women from HIV endemic countries regarding voluntary HIV testing in Canada. *Patient Educ Couns.* 2006;63:292–300.
- Prost A, Sseruma WS, Fakoya I, Arthur G, Taegtmeier M, Njeri A, et al. HIV voluntary counselling and testing for African communities in London: learning from experiences in Kenya. *Sex Transm Infect.* 2007;83:547–51.
- Chadborn TR, Delpech VC, Sabin CA, Sinka K, Evans BG. The late diagnosis and consequent short-term mortality of HIV-infected heterosexuals (England and Wales, 2000–2004). *AIDS.* 2006;20:2371–9.
- Huang ZJ, Wong FY, De Leon JM, Park RJ. Self-reported HIV testing behaviors among a sample of Southeast Asians in an urban setting in the United States. *AIDS Educ Prev.* 2008;20:65–77.
- Foley EE. HIV/AIDS and African immigrant women in Philadelphia: structural and cultural barriers to care. *AIDS Care – Psychol Socio-Med Asp AIDS/HIV.* 2005;17:1030–43.
- Levy V, Page-Shafer K, Evans J, Ruiz J, Morrow S, Reardon J, et al. HIV-related risk behavior among Hispanic immigrant men in a population-based household survey in low-income neighborhoods of northern California. *Sex Transm Dis.* 2005;32:487–90.
- Perez-Molina JA, Lopez-Velez R, Navarro M, Perez-Elias MJ, Moreno S. Clinicoepidemiological characteristics of HIV-infected immigrants attended at a tropical medicine referral unit. *J Travel Med.* 2009;16:248–52.
- Vissman AT, Eng E, Aronson RE, Bloom FR, Leichter JS, Montañó J, et al. What do men who serve as lay health advisers really do? Immigrant Latino men share their experiences as Navegantes to prevent HIV. *AIDS Educ Prev.* 2009;21:220–32.
- Schwarzwald H. Illnesses among recently immigrated children. *Semin Pediatr Infect Dis.* 2005;16:78–83.
- Álvarez-del Arco D, Monge S, Caro-Murillo AM, Ramírez-Rubio O, Azcoaga-Lorenzo A, Belza MJ, et al. HIV testing policies for migrants and ethnic minorities in EU/EFTA Member States. *Eur J Public Health.* 2014;24:139–44.
- Ostermann J, Kumar V, Pence BW, Whetten K. Trends in HIV testing and differences between planned and actual testing in the United States, 2000–2005. *Arch Intern Med.* 2007;167:2128–35.
- Fernandez MI, Collazo JB, Bowen GS, Varga LM, Hernandez N, Perrino T. Predictors of HIV testing and intention to test among Hispanic farmworkers in South Florida. *J Rural Health.* 2005;21:56–64.
- Carnicer-Pont D, de Olalla PG, Cayla JA, AIDS Working Group. HIV infection late detection in AIDS patients of an European City with increased immigration since mid 1990. *Curr HIV Res.* 2009;7:237–43.
- Dowling T. Rapid HIV testing among racial/ethnic minority men at gay pride events – nine U.S. cities, 2004–2006. *MMWR Morb Mortal Wkly Rep.* 2007;56:602–4.
- Olshefsky AM, Zive MM, Scolari R, Zuniga M. Promoting HIV risk awareness and testing in Latinos living on the U.S.-Mexico border: the Tu No Me Conoces social marketing campaign. *AIDS Educ Prev.* 2007;19:422–35.
- World Health Organization (WHO). Dublin Declaration on Partnership to fight HIV/AIDS in Europe and Central Asia; 2004. Available at: <http://www.euro.who.int/eprise/main/WHO/Progs/SHA/treatment/20051018.1> [consulted 08.02.15].
- World Health Organization (WHO). Guidance on provider-initiated HIV testing and counselling in health facilities; 2007. Available at: http://whqlibdoc.who.int/publications/2007/9789241595568_eng.pdf [consulted 07.05.15].
- International Organization for Migration (IOM). IOM guide for HIV counsellors; 2006. Available at: [http://www.iom.int/jahia/webdav/site/myjahiasite/shared/shared/mainsite/published_docs/brochures_and_info_sheets/HIV%20counselors%20GUIDE%20FINAL_Apr2006%20\(4\).pdf](http://www.iom.int/jahia/webdav/site/myjahiasite/shared/shared/mainsite/published_docs/brochures_and_info_sheets/HIV%20counselors%20GUIDE%20FINAL_Apr2006%20(4).pdf) [consulted 07.06.15].
- International Labour Organization (ILO), International Organization for Migration (IOM), Joint United Nations Programme on HIV/AIDS (UNAIDS). HIV and international labour migration; 2009. Available at: <http://www.ilo.org/public/english/protection/trav/aids/publ/migrpolicy.pdf> [consulted 07.05.15].
- Southgate J, Mital D, Stock A. Are women from high-risk ethnic minority groups more likely to decline antenatal HIV screening? *Int J Std AIDS.* 2008;19:206–7.
- Gardner EM, McLees MP, Steiner JF, Del RC, Burman WJ. The spectrum of engagement in HIV care and its relevance to test-and-treat strategies for prevention of HIV infection. *Clin Infect Dis.* 2011;52:793–800.
- Porco TC, Martin JN, Page-Shafer KA, Cheng A, Charlebois E, Grant RM, et al. Decline in HIV infectivity following the introduction of highly active antiretroviral therapy. *AIDS.* 2004;18:81–8.
- Das M, Chu PL, Santos GM, Scheer S, Vittinghoff E, McFarland W, et al. Decreases in community viral load are accompanied by reductions in new HIV infections in San Francisco. *PLoS ONE.* 2010;5:e11068.
- Quinn TC, Wawer MJ, Sewankambo N, Serwadda D, Li C, Wabwire-Mangen F, et al. Viral load and heterosexual transmission of human immunodeficiency virus type 1. Rakai Project Study Group. *N Engl J Med.* 2000;342:921–9.