



Recently Acquired HIV Infections in Persons from High Prevalence Countries

Results from the HIV Incidence Study in Germany

Santos-Hövenner C¹, Zimmermann R¹, Marcus U¹, Loschen S², Seiffert I¹, Bätzing-Feigenbaum J¹, Kücherer C², Hamouda O¹

¹ Department for Infectious Disease Epidemiology, HIV/AIDS and other blood born infections unit, Robert Koch-Institute, Berlin, Germany

² Division of Infectious Diseases, Centre for HIV and Retrovirology, Robert Koch-Institute, Berlin, Germany

Background

Monitoring of recent HIV infections is crucial for assessing current dynamics and changing patterns of the HIV epidemic. Using the data of the nationwide incidence study, we explored factors associated with recent infections (RI) among persons from high prevalence countries (HPC) with heterosexual transmission.

Methods

Socio-demographic, clinical and laboratory data, as well as transmission group category (TGC) was collected from a representative sample of newly diagnosed HIV infections reported to the national surveillance system. Dried serum or plasma spots were tested for recency of infection (< 5 months) using the BED IgG-capture ELISA. Proportions were compared using standard chi-square test.

Conclusions

Less than 20% of all newly diagnosed persons from HPC were diagnosed in the first half year after HIV infection and therefore, this is the group with the lowest proportion of RI overall. Reasons might be problems with access to HIV testing or health care in general, a low level of risk perception, stigma towards persons with HIV in the community, as well as a lack of knowledge about consequences of late HIV diagnosis. More outreach into the different HPC communities to sensitize for the importance of early testing is required. In prevention efforts it is crucial to keep in mind the heterogeneity of this "group". More data is needed to interpret whether persons from HPC contracted HIV in Germany, during the migration process or in their country of origin. This information is necessary to design targeted prevention strategies.

References

Bätzing-Feigenbaum J, et al. (2009): Implications of and perspectives on HIV surveillance using a serological method to measure recent HIV infections in newly diagnosed individuals: results from a pilot study in Berlin, Germany, in 2005 - 2007. HIV Medicine 10: 209-218
Bätzing-Feigenbaum J, Loschen S, Gohlke-Michaels S, Zimmermann R, Kücherer C, Hamouda O (2009): Pivoting second generation HIV surveillance in Berlin, Germany, 2005-2007: Risk profile for recently acquired HIV infections in MSM
Parash BS, et al. (2002): Quantitative detection of increasing HIV type 1 antibodies after seroconversion: a simple assay for detecting recent HIV infection and estimating incidence. AIDS Res Hum Retroviruses 18: 295-307

Results

> 3,082 samples of newly diagnosed HIV infections were obtained from 1st March 2008 - 31st March 2010, corresponding to 51% of all 6,030 newly diagnosed cases in that time period.
> The study population was representative for the national case reports regarding sex, transmission group, region of origin and federal state of residence.
> 277 of cases (9%) were from HPC and of those 173 (63%) were female and 102 (37%) were male.
> The majority came from sub-Saharan Africa (84%), followed by South-and South East Asia (9%) (figure 1).
> Most frequently reported countries of origin were Kenya, Cameroon, Thailand, Ghana and Nigeria.
> Proportion of RI among persons from HPC was 15% compared to 29% overall, with the proportion of RI being higher in women from HPC (16%) than in men (13%) (figure 3).
> The proportion of RI in persons from HPC was 21% in the youngest age group (18-29 years), followed by 16% in the oldest group (>45 years) and 11% in the middle age group. This trend was also present in sex-specific analysis (figure 4).
> Persons from HPC were less likely to have RI than persons with heterosexual transmission not originating from HPC (OR=1.9; 95%CI [1.3-2.8]) (figure 2). This contrast was more pronounced in men from HPC (OR=2.9; 95%CI [1.4-6.0]) than in women (OR=1.6; 95%CI [0.9-2.6]).
> When stratifying into region of origin, persons from Western Europe showed higher proportions of RI than persons from sub-Saharan Africa (OR=2.3; 95%CI [1.6-3.2]) and from Asia (OR= 3.6; 95%CI [1.6-8.5]). This difference was even more significant in women (figure 5).

Figure 1: Persons from HPC by region of origin

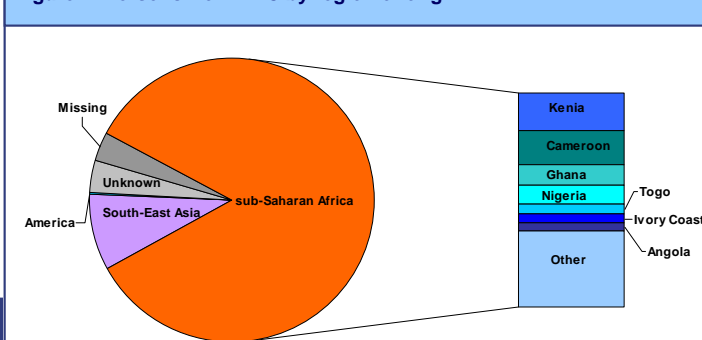


Figure 2: Proportion of RI by mode of transmission

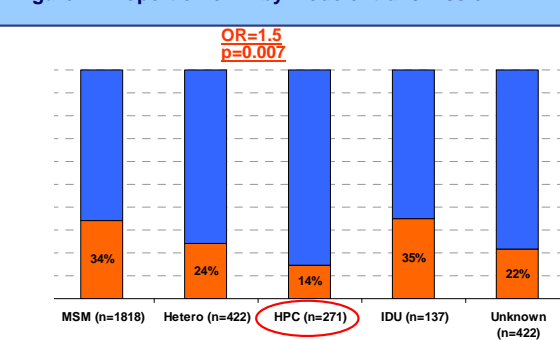


Figure 3: Proportion of RI in persons from HPC by sex

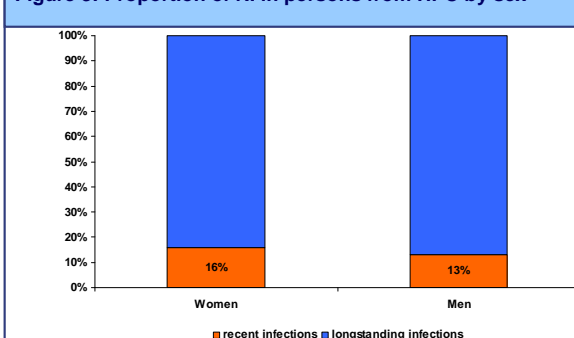


Figure 4: Proportion of RI in persons from HPC by age

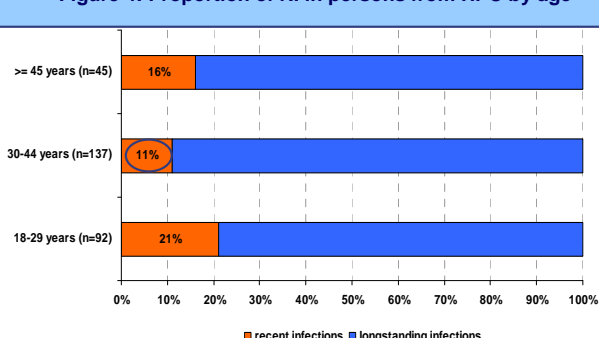


Figure 5: Proportion of RI by region (Comparison Western Europe and HP regions)

| Region | recent infections n | recent infections % | longstanding infections n | longstanding infections % | OR | 95%CI | p-value |
|--------------------|------------------------|------------------------|------------------------------|------------------------------|-----------|-----------|---------|
| Women | | | | | | | |
| Western Europe | 61 | 28% | 154 | 72% | Reference | | |
| sub-Saharan Africa | 26 | 19% | 114 | 81% | 0.58 | 0.34-0.97 | 0.04 |
| South-East Asia | 2 | 7% | 27 | 93% | 0.19 | 0.04-0.81 | 0.01 |
| Men | | | | | | | |
| Western Europe | 628 | 32% | 1,359 | 68% | Reference | | |
| sub-Saharan Africa | 12 | 13% | 79 | 87% | 0.33 | 0.18-0.61 | <0.005 |
| South-East Asia | 4 | 17% | 19 | 83% | 0.46 | 0.15-1.35 | 0.14 |
| Overall | | | | | | | |
| Western Europe | 689 | 31% | 1,514 | 69% | Reference | | |
| sub-Saharan Africa | 39 | 17% | 194 | 83% | 0.44 | 0.31-0.63 | <0.005 |
| South-East Asia | 6 | 11% | 48 | 89% | 0.28 | 0.12-0.65 | <0.005 |

Acknowledgements: The authors thank 64 laboratories contributing to the laboratory arm of the Incidence Study. Without these cooperating partners who collected blood samples and data the project would not have led to the presented results. The study is funded by a grant by the German Federal Ministry of Health.

Contact: Claudia Santos-Hövenner, Robert Koch Institute, DGZ-Ring 1, 13086 Berlin, Germany, E-Mail: Santos-HoevernerC@rki.de

Poster Number: PW14

5. Deutsch-Österreichischer AIDS-Kongress, 15.-18.6.2011, Hannover