

Research Project Proposal
Academic year 2015-2016

Project Nº 23
Title: HIV Voluntary counseling and testing in Kinshasa: Sexual behaviors and prevalence of subtypes and resistance mutations to antiretrovirals.
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Summary HIV Voluntary counseling and testing (VCT) is a preventive strategy for HIV infection which includes, in addition to the test, two sessions where the participants receive information regarding HIV infection and available preventive measures to avoid transmission. Unlike most economically developed countries, where HIV infections are linked to HIV-1 subtype B, in the Democratic Republic of Congo (DRC) there is a higher genetic diversity of the circulating strains, some of them showing extended high viremics, different risk of transmission or resistance mutations to antiretroviral drugs. Genetic studies of HIV can be carried out in dried blood spot on filter paper as an alternative cost-effective sample to plasma. The objectives of this project are: 1. To assess in a health-care context in Kinshasa the HIV-related behaviors, among participants attending VCT. 2. To measure the HIV-1 viral load and to characterize the infecting strains among newly HIV diagnosed patients. Methods: Prospective cohort study with individuals aged 15-59 years living in Kinshasa (DRC) attending Monkole Hospital for VCT and getting a positive HIV test. Participants will answer to two surveys on sociodemographic and risk behaviors for HIV infection. All data will be entered into a Stata database for statistical analysis.



For those newly diagnosed HIV positive patients a sample of dried blood spot will be collected and shipped to Pamplona to be tested. HIV viral load will be studied through real time RT-PCR; subtype and antiretroviral resistance mutations will be analyzed by viral sequencing, mutations interpretation and phylogenetic analysis using available software (ClustalW2, MEGA 6.2 geno2pheno, Stanford-hivdb).

References

Carlos S, et al. Misconceptions about HIV infection in Kinshasa (Democratic Republic of Congo): a case-control study on knowledge, attitudes and practices. *Sex Transm Infect.* 2014. pii: sextrans-2014-051734.

Kimaro J, et al. Using dried blood spots collected under field condition to determine HIV-1 diversity and drug resistance mutations in resource limited Tanzania. *J Int AIDS Soc.* 2014;17(4):19686.

Smit PW, et al. Systematic review of the use of dried blood spots for monitoring HIV viral load and for early infant diagnosis. *PLoS One.* 2014; 9(3):e86461.

POSSIBILITY OF PhD

YES (depending of funding)