research included geographic mapping of RG's locations, qualitative and quantitative surveys and mapping of existing services. Geographic mapping was based on interviews of primary (N = 225) and secondary (N = 1240) key informants and showed more than thousand RGs locations. 125 representatives of each RG were interviewed during quantitative survey and 45 MARAs had in-depth interviews.
Results Data shows that spots are very mobile which requires recurrent mapping. Street-based spots are popular locations for SBCs and FSWs. As a local peculiarity, mobile spots for IDUs were revealed, which means that drugs can be delivered by order. The preliminary data of size estimation in Zaporizhzhia shows that average number of FSW, IDUs and SBC is 2023, 2892 and 1388 relatively, what could be useful for planning and developing services. Obtained data shows high level of risk practises among MARAs (the percentage of condom use among FSWs with regular client is 65%, with occasional clients - 76%; the percentage of IDUs who have used only sterile syringes is 78%). Range of HIV and Reproductive Health programmes revealed different types of services for MARAs with a poor access due to subjective reasons and geographical location of establishments.
Conclusions Research revealed the lack of HIV-prevention services for MARAs. For higher efficiency the developed HIV-prevention model should be very flexible. Service delivering process should be strongly supported by local government; the activity coordination and referral system should be thoroughly organised.

P4.044 KNOWLEDGE AND ATTITUDES ABOUT HIV/AIDS AND SEXUAL HEALTH PRACTISES IN FIRST-YEAR UNIVERSITY STUDENTS

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Background Good knowledge and attitudes about HIV/AIDS including safe-sex practises are important for adolescents' sexual health. The AIDS Institute at Khon Kaen University (KKU), promotes knowledge of HIV/AIDS and research into different strategies to reduce HIV/AIDS risk.
Method This study was conducted with first-year health-science KKU students. Sexual health behaviour, general knowledge about HIV and sexual transmitted diseases, HIV prevention beliefs, self-confidence and accessibility to care and counselling were explored using a self-report questionnaire, approved by KKU Ethics Committee.
Results Questionnaires were returned by 683 health-science students; 69.4% were female, mean age was 18.8 years. More than 90% of them declared that they have not had sexual experience. Many (74%) had not talked about HIV with friends. Seven of ten survey questions about HIV knowledge were answered correctly in more than 84% of students. These questions included knowledge about at-risk populations, possibility of transmission without HIV symptoms, progression to death from opportunistic infection, transmission by eating together, timing for HIV testing, source of HIV in blood and body fluid and aggravated transmission by other sexual transmitted diseases. However, some still believed that HIV people should not have a sex life (33.7%), or, did not know that coitus interruptus is unsafe for protecting from HIV infection (33.2%). Regarding sexual practises, most were confident that they would not have sex without a condom (77.1%), or, would be able to bargain not to have sex if they didn't want to (82.5%), or, had access to condoms when needed (86.8%).
Conclusion Students have good general knowledge about HIV/AIDS. Most report confidence about only engaging in safe-sex behaviours, and having the communication skills to bargain with a partner to achieve this. However, behaviour in real life situations can be very different. This is difficult to research by self-report methods and would require other research tools.

P4.045 WHEN TALKING OR NOT TALKING BECOMES A RISK: A GROUNDED THEORY STUDY EXPLORING THE IMPACT OF HIV ON IMMIGRANT BLACK AFRICAN FAMILIES IN THE UK

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Background Black Africans, culturally very diverse, make up less than 1% of the UK population. Yet they are the single most affected heterosexual group by HIV, accounting for a third of all annual new HIV diagnoses. Advancements in HIV treatment have transformed HIV into a chronic illness. Thus, families now deal with long term implications of HIV. In the UK, HIV testing, and more recently treatment, is free. Yet, black Africans predominantly test very late for HIV hence more susceptible to HIV-related morbidity and mortality. This paper explores the participants' risk perceptions, particularly men, on what it means to live with diagnosed HIV and the views of service providers on how the services can respond.
Methods This paper is based on a qualitative study involving in-depth interviews with 23 participants; 11 positive men, 6 positive women, 1 negative man and 5 employees of HIV service-provider agencies. Data analysis was based on grounded theory's cyclic three-stage process; open coding, axial coding and selective coding.
Results The men and their partners rarely discussed their positive diagnosis with other family members, because they feared losing control over whom else would know about their diagnosis through a 'cascade of disclosure'. Although disclosure is a pre-requisite for seeking support, many participants shunned potential support rather than risk stigmatisation. Men were particularly reluctant to discuss their HIV status with other family members, and were more at risk of exposure. 83% of the men and 50% of the women had been exposed by a third party.
Conclusions Communication about HIV in the family, in a complex multicultural context, remains a challenge. This inhibits family members' access to and use of HIV services, contributing to continued poor outcomes for immigrant black Africans, particularly the men. This in turn diminishes the potential of the current positive prevention campaigns.

P4.046 RISING PREGNANCY RATES AMONG KNOWN HIV-POSITIVE WOMEN IN AT HEALTH CENTRES IN ADDIS ABABA, ETHIOPIA

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Background At public health centres in Ethiopia, the proportion of known HIV-positive pregnant women at entry into ANC grew from 17% in 2009 to 36% in 2011. To assess the reasons for this apparent rise in pregnancy among known HIV-positive women, we reviewed pregnancy rates among HIV-positive women of reproductive age (WRA) enrolled in HIV services.

Methods

1. Retrospective study of 3 cohorts of WRA starting ART at 4 health centres in Addis Ababa between 2009 and 2011 to examine pregnancy rates over time;
2. Interviews with HIV+ pregnant women regarding reasons for their pregnancy.

Results Among 167 women who started ART in 2008/9, 4.2% had become pregnant. Of 165 who started ART in 2009/10, 9.1% had become pregnant. Of 161 enrolled on ART in 2010/11, 13.7% had become pregnant. In the first cohort, the pregnancy rate dropped from 4.2% to 4.1% after one year and 3.8% after two years on ART. In the second cohort, the rate dropped from 9.1% to 7.5% after one year on ART. The third cohort was too recent to assess pregnancy rates after one year.

Among 297 WRA enrolled in HIV care, 24% had become pregnant after knowing they were HIV+. Of these, 74% were on ART; 61% were planned pregnancies.

Conclusions Women *recently* enrolled on ART had higher pregnancy rates than women on ART after one year, possibly reflecting the monthly FP counselling once on ART. The data further show substantial unmet need for FP, as 39% reported an unintended pregnancy.

P4.047 DISCLOSURE OF HIV STATUS IN HIV INFECTED CHILDREN IN KENYA

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Background Greater access to ART has resulted in more HIV-infected children surviving into adolescence and adulthood. Adolescence is associated with a sense of independence and sexual debut, therefore knowledge of HIV status may improve ART adherence and help in preventing HIV transmission. This study aimed to determine the incidence rate of and factors associated with disclosure in HIV-infected children at the Coptic Hope Center, Nairobi, Kenya.

Methods This was a retrospective cohort of HIV-infected children aged8–14 years unaware of their HIV status at enrollment. Disclosure was defined as knowledge of HIV status as reported by caregiver and confirmed by child, as assessed at every clinic visit. Cox proportional hazards regression models were used to determine incidence rate and factors associated with paediatric disclosure of HIV status during 1-year follow-up.

Results At enrollment, 112 of 136(82%) HIV-infected children were unaware of their HIV-status. Among these, 77 (69%) were 8–10 years of age[median 10.2 years, Interquartile range (IQR), 8.9–11.6]. Disclosure occurred in 46 (41%) of the children. One-year incidence of disclosure per 100 person-years was 67.7 [95% Confidence Interval (CI): 50.7–90.4].Disclosure was more likely to happen to children aged 11–14 years as compared to those aged 8–10 years. Disclosure in children aged 11–14 years was higher in the first 6months, but in children aged 8–10 years, disclosure was higher in the last 6months of follow-up. In multivariate analysis, older age [adjusted hazard ratio (aHR), 1.53, $P < 0.001$] and WHO stage 3/4 (aHR, 0.48, $P = 0.04$) were associated with disclosure. Attendance of disclosure sessions was suggestive of increase in disclosure probability (aHR, 3.15, $P = 0.11$).

Conclusions While paediatric disclosure was low, disclosure sessions may play a role in facilitating disclosure. These results reinforce the continued need for development and evaluation of paediatric disclosure interventions to increase disclosure incidence.

P4.048 GENDER EFFECT OF HIV ON NEUROPSYCHOLOGICAL FUNCTIONING

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Gender effect of HIV on Neuropsychological functioning

Introduction It has been established that HIV enters the central nervous system (CNS) early after infection and eventually results in both structural and functional brain changes in about 30–50% of cases (Shaw *et al.* 1985). Even in their milder forms these changes may have significant effects on day-to-day functioning (Antinori *et al.* 2007).

Objective This study examines neuropsychological differences, especially gender difference, between HIV seropostive (HIV+) patients being followed in a University of Zambia clinic and demographically comparable seronegative (HIV-) controls recruited in the same setting.

Materials and Methods 38 HIV+ subjects on antiviral treatment and 42 HIV- participants with similar age education and gender. They were all administered a standardised neurocognitive test battery that has been found sensitive to HIV Associated Neurocognitive Disorder (HAND) in the USA and internationally (e.g., in China, India, Romania and Cameroon).

Results The test battery was found to be applicable to a Zambian population. A clear HIV effect was seen with a medium to high overall effect size (Cohen's d = 0.74). However, it was only the female seropostive group who showed this effect of HIV.

Conclusion HIV can result in neuropsychological deficits in Zambia, where the clade C of the virus dominates. It is suggested that the HIV infected women are more at risk for developing cognitive deficits than men, possibly because of gender related social, financial and healthcare disadvantages.

P4.049 LOPINAVIR/RITONAVIR IN COMBINATION WITH TENOFOVIR/EMTRICITABINE AS POST EXPOSURE PROPHYLAXIS (PEP) TO HIV - AN EFFECTIVE AND WELL TOLERATED REGIMEN

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Introduction PEP to HIV is a course of antiretroviral drugs administered within 72 hrs after events with high risk of exposure to HIV aiming to reduce the odds of established infection. We evaluated the putative HIV exposed individuals referred to the Medical university of Vienna general hospital and indicated for PEP in years 2008–2012.

Methodology and Results We have analysed the data from 450 individuals. Our data demonstrates that:

- 44.1% are females,
- indication type: unprotected homosexual contact [28.5%, from which 45% of source patients (SPs) were HIV positive], needlestick injuries (22.8%, 37.5% HIV positive SPs), unprotected heterosexual contact (21.4%, 20% HIV positive SPs), occupational exposure (12.8%, 100% HIV positive SPs), rape (11.4%) and needle exchange by IVDUs (2.8%) where HIV status of SPs were unknown,
- PEP regimens were combination of lopinavir/ritonavir with tenofovir/emtricitabine (79.4%), darunavir/ritonavir with tenofovir/emtricitabine (10.1%) or lopinavir/ritonavir with lamivudine/zidovudine (10.5%),
- 58.8% of individuals tolerated the PEP without any adverse events, 35.3% had minor adverse events (nausea, fatigue, diarrhoea, abdominal discomfort or slight elevation of pancreatic enzymes) and in 5.8% PEP was modified or discontinued (severe adverse events: strong diarrhoea, abdominal pain and vomiting or significant elevation of liver function parameters),