

**Methods** Semi-structured qualitative interviews were conducted to 90 newly diagnosed HIV-positive patients in one health facility in Maputo City and two urban and rural health facilities in the province of Zambézia. Interviews were recorded, transcribed and translated prior to analysis.

**Results** According with patients, having knowledge about concepts of health, disease and HIV was seen both as a facilitator of ART therapy adherence by them, as it allows a better understanding of benefits of HIV treatment and consequences of non-compliance. Most of the interviewed showed basic knowledge about HIV (concept, ways of transmission, advantages and disadvantages of ART therapy). Patients who demonstrated basic knowledge about HIV underlined the importance of taking medication to stay healthy. Many of patients interviewed were not registered in HIV care program and were not enrolled into ART therapy 45 days after being diagnosed as HIV positive.

**Conclusion** HIV-related knowledge is a key facilitator that contributes strongly to access improvement. Our results show that both the knowledge on HIV concept, HIV status and the notions of "sick" or "healthy" are crucial for adherence to treatment.

## Biomedical STI/HIV Prevention

### P5.01 ANTIRETROVIRAL THERAPY DURING PREGNANCY AND MATERNAL AND NEONATAL SIDE EFFECTS IN AN HIV-INFECTED PREGNANT WOMEN COHORT ATTENDED AT OBSTETRICIAN SERVICE OF SCHOOL OF MEDICAL SCIENCES AT UNIVERSITY OF CAMPINAS (CAISM/UNICAMP), BRAZIL BETWEEN 2000 AND 2016

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**Introduction** Significant progress of ART in HIV infection has led to a remarkable decline in mother-to-child transmission (MTCT) of HIV. However, the use of complex regimens can cause side effects to women and exposed children. The objective of this study was to evaluate side effects in pregnant women and their neonates exposed to ART at an university hospital in Brazil between 2000 and 2016.

**Methods** Cohort study of 793 pregnant women and 787 newborns selected from clinical records and epidemiologic surveillance system. Analysis was performed through proportions and medians. The specific effect of different ART regimens was analysed through risk ratios (RR), chi-square test, Fisher's exact test, student t test, Mann-Whitney test, 95% confidence interval and level of significance of 0.05.

**Results** MTCT rate was 2.3%. Mean age was 28 years, more than 60% were White and diagnosed before pregnancy. HAART use: 17.4% with nevirapine (NVP), 16.9% with nelfinavir (NFV), 53.2% with lopinavir/ritonavir (LPV/R), 4.3% with other PI (26 with atazanavir/ritonavir). Only 1.9% women did not use ART by late diagnosis. There were: 56% cases of maternal anaemia, 14.1% of thrombocytopenia, 54.5% of hepatic abnormalities, 2.7% of allergic reactions, 82% of dyslipidemia, 6.2% of diabetes. NVP use was associated to hepatotoxicity, allergic reactions and anaemia. NFV was associated to hepatic impairment and allergic reaction, ATV/R use

was associated to bilirubin increase, and LPV/R to dyslipidemia. Prematurity rate was 21.7% and low birth weight rate 22.5%. In the newborns: 25.7% of anaemia, 3.6% of thrombocytopenia, 36% of hepatic impairment. Congenital anomalies were presented in 10%. NVP use associated to anaemia and hepatic impairment. NFV was associated to hepatic abnormalities. ATV/R was associated to thrombocytopenia.

**Conclusion** Although growing evidence indicates that antiretroviral treatment in pregnancy has overall a very favourable risk-benefit profile, it is important to maintain monitoring of the safety and efficacy of drug classes in order to optimise treatment recommendations.

### P5.02 COMPARISON OF IMMUNE STATUS OF MOTHERS INFECTED WITH HUMAN IMMUNODEFICIENCY VIRUS ON BEFORE AND AFTER DELIVERY

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**Introduction** We assessed the immune status of mothers infected with human immunodeficiency virus (HIV) on before and after delivery in Ibadan, Nigeria. Seventy consented mothers attending the antenatal clinic were recruited and only thirty nine participated in the study. These women were followed-up until delivery and are on antiretroviral drugs.

**Methods** Immunologic outcomes were assessed before and after delivery using cytometry.

**Results** Before delivery, 20 (51%) of the women had CD4 cell count 3/cell while 19 (49%) had CD4 count cell >500 mm<sup>3</sup>/cell. At birth, 14 (36%) of the women had CD4 cell count 3/cell while 25 (64%) had CD4 cell count >500 mm<sup>3</sup>/cell. 8 (40%) of the women with CD4 cell count 3/cell before delivery still had low immune status at birth while 12 (60%) had improved in CD4 cell count; also, 6 (32%) who had CD4 cell count >500 mm<sup>3</sup>/cell before delivery had low CD4 cell count at birth, while 13 (68%) had CD4 cell count >500 mm<sup>3</sup>/cell before delivery maintained high immune status at birth. Test of discordancy of immunity before and after delivery showed that there is no significant difference between CD4 cell count before and CD4 cell count at birth.

**Conclusion** Assessment of the impact of immune status of mothers infected with HIV on birth outcomes is essential for tailoring public health measures to reduce mother-to-child transmission of HIV.

### P5.03 DISCOVERY OF TRIAZOLE BASED INHIBITOR OF HIV AND HCV WITH FAVOURABLE METABOLIC PROFILE

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**Introduction** The HIV and HCV coinfection poses greatest threat to the clinical fraternity for its management because of similar mode of transmission. According to an estimate, nearly two million people infected with HIV are co-infected with hepatitis C virus (HCV) globally. The present study aimed at

the development of novel hybrid derivatives of 1,2,4-triazole-thiol hybrids as a inhibitor of HIV and HCV infection.

**Method** The target compounds were developed via nucleophilic reaction with basic amines/thiols. These molecules have been subsequently tested for anti-HIV activity using TZM-bl cell lines along with Luciferase expression profile of the TZM-bl cells after infecting with NL4.3 virus and MTT assay for the cytotoxicity determination. The anti-HCV activity was also determined by capability to obstruct the HCV replicase (HCV NS5B) activity *in vitro* and HCV replication in a cell culture system carrying replicating HCV subgenomic RNA replicon. The metabolic profiling of the active compound was also carried out to define the formation of metabolites by the oral route.

**Results** Among the tested derivatives, compound 6d found to exhibit 98% of inhibition of HIV with  $K_i$  of 245.12 nM against HIV-RT with more than 50% inhibition of HIV replication. Moreover, compound 6e showed significant inhibition of RNA dependent RNA polymerase (RdRp) activity of HCV replicase *in vitro* with IC<sub>50</sub>7.8 µg/ml. It also showed significant inhibition of HCV replication in culture system which leads to reduction in HCV RNA titre and translation level of viral proteins in concentration-dependent manner. In metabolic analysis, it has been found that, the skeleton of the hybrid compound remained intact during metabolic assay for the longer duration to exert its effect.

**Conclusion** Together with excellent bioactivities against HIV and HCV infection and favourable metabolic profile, the derivatives of triazole-thiol showed promising option to develop newer therapeutics against the HIV and HCV co-infection.

#### P5.04 ACADEMIC DETAILING IN HIV: AN ALTERNATIVE IN PRIMARY CARE

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**Introduction** The 90-90-90 target predicts that by 2030 HIV infection will no longer be a global epidemic. In this context, the Protocol for the Treatment of HIV patients in Primary Care provides that all HIV patients receive the offer of antiretroviral treatment. This challenge requires a process of health education. Academic Detailing (DA) may be an alternative to accelerate the implementation of this new guideline. The purpose of this study is to discuss the principles of AD review the evidence of its effectiveness in, and potential for improving, HIV care.

**Methods** This is an ongoing study, with the partial results of the author of the thesis in the doctorate degree program in Health Science promoted by UFCSPA. The method is literature integrative review in which were followed: identification of the problem, defining the objective and lesson plan, searching for literature, the evaluation and analysis of found resources. The general educational research literature on improving physician performance was reviewed along with studies that were designed to test AD.

**Results** The study show that AD could modify doctors' practices in primary care, when you understand the reasons for the behaviour. Brief reinforcement visits increase success rates and targeting programs to physicians at greatest need improves the

cost effectiveness of educational interventions. This educational intervention has already been widely investigated for chronic diseases such as hypertension, diabetes, gynaecological and obstetric diseases. Studies have been conducted by Harvard to implement the treatment of HIV exposure prophylaxis. However, the management of people living with HIV/AIDS was not found in the literature.

**Conclusions** AD is one of the few educational interventions that has consistently demonstrated improved medical performance. AD methods to improve HIV practices in primary care are in need of much additional research. Improving the detection of sexual infections disorders and underuse of HIV health treatment may prove to be more difficult when teamwork don't know the Guidelines.

#### P5.05 NON-TRADITIONAL STRATEGIES TO APPROACH TOPICS RELATED TO SEXUALLY TRANSMITTED DISEASE

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**Introduction** The traditional teaching strategies follow steps of activities and demonstrations generally directed by the teacher. This procedure may not provide students with valuable skills or even with knowledge that lasts much beyond the end of the term. To enhance the quality of teaching and learning complex problems in the classroom we use non-traditional strategies to approach topics related to sexually transmitted disease important to the health of groups, communities and general populations. Based in this proposition, professors of the health area need to search new strategies in order to adjust the professional education of the graduates to the health system in order to ensure the delivery of quality healthcare to the population. The purpose of this work was to elaborate hornbook and a board game with specific guiding principles, rules to discuss about the theme sexually transmitted diseases by undergraduate students. Materials and Methods.

**Development of didactic materials:** the first step was to make literature review about the theme following of the elaboration of hornbook, questions and answers for better understanding and comprehension of the subject. The hornbook and the board game emphasised principles of health education, the conceptual definition, conceptual context of the problem, etiologic agents, method of transmission, mechanisms of prevention, control and therapies.

**Dynamic with hornbook** For the application of the hornbook people or students were sitting on a circle to discuss about the theme before the board game application.

**Dynamic of board game:** The classes were divided into groups of five students and received a board, dice, game playing pieces, cards specific with questions and answers, curiosity cards, and instructions.

**Results and conclusion** games and hornbook therefore, seemed to be valuable tools, not only for students learning, but also for teachers, groups, communities, homeless and general populations. Board games and hornbook can promoting pleasure and could be used to mobilise the desire to know, essential to the learning process at any age application.

P5.06

# HIV-POSITIVE MEN'S KNOWLEDGE AND ATTITUDES REGARDING HPV, HPV VACCINE, AND ANAL CANCER SCREENING

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**Introduction** High-risk oncogenic types of human papillomavirus (HPV) are the major cause of several cancers in men, notably anal cancer. HIV co-infection further elevates risk. We assessed knowledge of and attitudes regarding HPV, HPV vaccination, anal cancer, and anal cancer screening among HIV-positive men.

**Methods** Male participants of a multi-site cohort of persons in care at 9 specialty HIV clinics in Ontario, Canada, responded to questions about HPV knowledge and attitudes regarding perceived risk and willingness to receive HPV vaccine and anal cancer screening. We analysed data from interviews between 04/2016 and 08/2016.

**Results** 678 men were interviewed. Many had either not heard of HPV (20%) or had heard the term but did not know what it was (25%). Among men familiar with the term (n=398), only 51% knew that HPV can cause anal cancer and 56% knew that people with HIV are at higher risk for cancers caused by HPV. Many thought their chance of getting HPV was zero (19%) or low (36%). 63% had heard of the HPV vaccine and 44% knew that it was recommended for males, but only 13% reported that a health professional discussed the vaccine with them and 6% were vaccinated. Men said that they would be likely/very likely to get vaccinated if it were offered free of charge (81%), if they had to co-pay \$30/dose (59%), or pay full price (18%). The majority would be likely/very likely to get anal cancer screening via digital rectal exam (87%), Pap cytology (90%), or anoscopy (83%). Men were comfortable/very comfortable discussing anal health with their HIV doctor (87%) and family doctor (84%).

**Conclusion** Our findings suggest that there are many knowledge gaps to address regarding awareness of HPV and HPV-associated disease among HIV-positive men, but that men were comfortable discussing anal health with care providers. Men were generally willing to accept anal cancer screening and HPV vaccination, if offered at no/low cost. Future work will identify correlates of hesitancy to accept vaccination and screening, which can guide promotional messaging and interventions.

P5.07

# PRACTICABILITY EVALUATION IN FRENCH-SPEAKING SUB-SAHARAN AFRICA COUNTRIES OF FINGER-STICK WHOLE BLOOD HIV SELF-TEST

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**Introduction** Opportunities for HIV testing could be enhanced by offering HIV self-testing (HIVST) in populations that fear stigma and discrimination when accessing conventional HIV counselling and testing in health care facilities.

**Methods** The Exacto Test HIV (Biosynex, Strasbourg, France) fulfilled the following criteria I) Capillary blood-based test detecting early HIV infection; II) Sterile safety lancet; III)

Simplified blood sampling system; IV) Simplified buffer delivery system; V) Specimen presence control by blood deposit assessment and migration control band; vi) Results in 10 min; VII) Simplified and easy-to-read leaflet in French, Lingala, Swahili and Sango. The practicability of HIVST was assessed in 630 adults living in Kisangani and Bunia, Democratic Republic of Congo (n=330) and Bangui, Central African Republic (n=300), according to WHO recommendations.

**Results** Design. Exacto self-test showed 100.0% sensitivity and 99.5% specificity. **Practicability in lay users.** 97.4% correctly performed HIVST and claimed the test was easy or very easy to carry out; however, 26.5% asked for telephone or oral assistance, and difficulty obtaining sufficient quantity of blood was observed in 2.6%; 47% used the notice in French, 10% in Lingala, 23% in Swahili and 20% in Sango. Overall, the results were correctly interpreted in 90.2%, the reading/interpretation errors concerned the positive (6.5%), negative (11.2%) or invalid (16.0%) self-tests. The notice was correctly understood in 78.5%.

**Conclusion** Our field experience with Exacto self-test implemented for the first time in a French-speaking African country demonstrates very satisfactory success rate of performance and interpretation. However, the main obstacle for HIVST was clearly the educational level, associated with execution and interpretation difficulties in illiterates or very poorly educated people. Notice design with pictures and in vernacular languages is essential. Supervised use of HIVST should be essential in poorly-educated people.

P5.08

# KNOWLEDGE OF TRUVADA PRE EXPOSURE PROPHYLAXIS (PREP) AMONG MEN WHO HAVE SEX WITH MEN IN KISUMU COUNTY, KENYA

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**Introduction** Each country in the world has put in place strategies to prevent HIV/AIDS infections. In Kenya today, to control HIV/AIDS infection, there are various strategies that are in place: VCT, PMTCT, VMMC and Condom use. In that context however, research has shown that Truvada PrEP reduces the risk of HIV infection by more than 90% among gay and bisexual men when taken once-daily. The objective of this study is to investigate the knowledge of Pre Exposure Prophylaxis (PrEP) among MSM.

**Method** Ten community health workers were subjected to a three week intensive training programs to empower them with skills of carrying out interviews. Data was collected for a period of three months by use of Questionnaires and personal interviews. During the study, the enumerators used the following demographic data: Sex, Age, Education and how the partners perceive the use of Pre Exposure Prophylaxis

**Results** 80 MSM were enrolled in this survey with their ages ranging from 18–35 years all being Males who are HIV + and with basic High Education. Of 40% of the respondents, they have preferred to use condoms as a protective device and other Gels other than Truvada PrEP. 50% of the respondents were in agreement to use PrEP and they had some perceptions on the cost, availability, side effects in the event of stoppage while 10% of the respondents were not sure whether to use Truvada PrEP or not since they needed more



Education of Medical experts. However, the level of knowledge of Truvada PreP was proportional to their Education.

**Conclusion** The survey showed that more information on Truvada PreP usage should be disseminated since its usage still remains a myth to most Kenyans (there is still a strong believe that AIDS as no cure). Therefore, for a successful Truvada usage depends on Opinion leaders, health Professionals and researchers to correct the current misconceptions existing about Truvada PreP in their communities

**P5.09 AWARENESS OF HIV/AIDS AND STI'S AMONG VISUALLY IMPAIRED FEMALE SEX WORKERS (VIFSWs) IN ELDORET TOWNSHIP, KENYA**

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**Introduction** In the recent past, it has been a notion that VIFSWs have a greater risk of acquiring HIV due to their Physical challenge they face. However, according to a report from UNAIDS which says that women have a greater risk of becoming infected than men if they are unprotected. The aim of the study is to analyse the level of awareness about HIV/AIDS/STIs among VIFSWs from their Brothels in Eldoret Township, Kenya.

**Methods** A descriptive study was conducted where Qualitative methods were used. In depth Interviews was conducted on 60 VIFSWs and out of those 60, a strata of 6 was formed. The data was then put on codes and later interpreted.

**Results** According to the results, it was found out that 99% of the respondents in the study had knowledge on HIV/AIDS and STIs. However, the majority of the respondents faced ill treatment by their male clients due to their physical challenge they face. Also they faced stigma and discrimination from members of Public, on availability of user friendly health care services was also another challenge. They also lacked Testing and Counselling services from government Institutions.

**Conclusion** According to data obtained from the field, it suggests that the level of awareness of HIV/AIDS/STIs is high among the VIFSWs. However, there is an urgent need to conduct regular Counselling and Testing since they have less knowledge on importance of Counselling and Testing and early use of PeP in case of an exposure or early use of Anti Retroviral Therapy (ART).

**P5.10 INHIBITORY EFFECT OF CHLORHEXIDINE ANTISEPTIC MOUTHWASH AGAINST *NEISSERIA GONORRHOEA*? AN IN-VITRO STUDY**

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**Introduction** Studies have found that oral sex plays a major role in the transmission of *Neisseria gonorrhoeae* (NG) in men who have sex with men (MSM) populations. We aimed to establish *in vitro* the concentration and exposure time of Chlorhexidine mouthwash (Corsodyl®) that can inhibit the growth of NG to less than 102 Colony Forming Units (CFU) per ml.

**Method** Four NG strains isolated from pharyngeal specimens were selected for this exercise. Three were isolated from women, and all four were susceptible to ceftriaxone, cefixime, and spectinomycin, three were less susceptible (intermediate) to azithromycin and two were resistant to ciprofloxacin. None of the strains produced penicillinase. The antibiotic susceptibility was obtained using the agar dilution method and European Committee on Antimicrobial Susceptibility Testing breakpoints were used. Of each of the isolates a suspension of approximate 108 CFU/ml (0.5Mc Farland) was prepared in Phosphate-Buffered Saline (PBS) (positive control) and in serial dilutions of Chlorhexidine in PBS- 0.2%, 0.1% and 0.05%. Following 30 and 60 s of exposure at ambient temperature a volume of 10 µl of each of the suspensions was plated onto BBLTM Columbia blood agar (5% horse blood) and incubated for 48 hours (5%–7% CO<sub>2</sub>, 35±2°C). The colony growth was recorded and the number of CFU was counted, if appropriate. All experiments were conducted in triplicate.

**Results** Abundant growth was obtained with all PBS control suspensions. Zero CFU/ml were retrieved for all experiments using 0.2% chlorhexidine and 60 s of contact time. In only one of the 12 experiments using 0.2% chlorhexidine and 30 s of contact time a NG growth of 100 CFU/ml was obtained. Lower concentrations of chlorhexidine inhibited the growth of NG but to a lesser degree than 0.2%. The longer contact time inhibited the growth more frequently compared to the 30 s of contact time.

**Conclusion** The efficacy of the inexpensive and widely available 0.2% chlorhexidine mouthwash in preventing or treating pharyngeal NG merits consideration in clinical trials.

**P5.11 ASSOCIATION OF HUMAN MANNANOSE RECEPTOR (hMR) IN SEXUAL TRANSMISSION AND PATHOGENESIS HIV SUBTYPE C VIRUS IN SERODISCORDANT COUPLES**

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**Introduction** HIV binds specifically to human Mannose Receptor (hMR) on vaginal epithelial cells which are devoid of conventional CD4 receptor. HIV binding to hMR on vaginal epithelial cells induces the production of Matrix Metalloproteinase 9 (MMP9) leading to degradation of extracellular matrix which may increase the risk of sexual transmission of HIV.

**Methods** PCR amplification of DNA from PBMCs of the serodiscordant females for CCR5 gene flanking for CCR5-delta 32 region. Translated amino acid sequence of C2-V3 region of env gene of HIV PBMCs and sperm of the infected male partners of the Serodiscordant couples was determined. The localization of hMR on vaginal epithelial cells of the seronegative females from general population and seronegative females from Serodiscordant couples was studied using FITC labelled antibodies to hMR (FITC AbhMR).

**Results** Translated amino acid sequence of C2-V3 region of env gene of HIV1C in PBMCs (n=9) and sperm (n=5) of the male partners showed the presence of distinct variants and the variation in PBMCs and sperm of serodiscordant males was almost similar to that of infected males from concordant couples. The Presence of hMR on 0%–11% of the vaginal epithelial cells of seronegative females (n=39) from serodiscordant couples and 90%–95% that of control group of females.