

through TRUGENE HIV-1 Genotyping assay. Phylogenetic analyses were performed by the maximum likelihood method with MEGA software.

**Results** Among the 101 sequences analysed, 54 (53.5%) were HIV-1 subtype B and 47 (46.5%), non-B subtypes. The recent infection rate was 22.2% (n=12) and 19.1% (n=09) for subtypes B and non-B. In non-B subtypes there were a significant decrease in CD4+ T cells count between recent and long-term infections compared to subtype B ( $p=0.002$ ). There was no statistical difference in viral load levels and infection status for the analysed subtypes.

**Conclusion** Decreases in CD4+ T cells count in the course of infection by non-B subtypes may indicate a propensity for disease progression by these variants. Thus, genotyping, antiretroviral resistance, and infection status assessments are important for monitoring local epidemics.

### P3.123 POPULATION GROWTH AND EVOLUTIONARY HISTORY OF HIV-1 B AND F SUBTYPES IN THE NORTHEAST BRAZIL

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**Introduction** Despite low prevalence in the world, the HIV-1 subtype F is expanding in the state of Pernambuco, Northeast - Brazil, being the most prevalent subtype after subtype B. Increase of the frequency of other recombinants BF in the region, denoting the high capacity of recombination of subtype F with B. Thus, the objective of this work was to characterise the transmission dynamics between subtypes B and F in the state of Pernambuco, Northeast - Brazil.

**Methods** One hundred and fifty-six sequences of HIV-1 infected individuals were obtained from five Voluntary and Counselling Testing Centres (VCTs) in the state of Pernambuco (Northeast - Brazil), of which 103 were HIV-1 B and 53, HIV-1 F. Samples were collected between 2002 and 2009. We used the Bayesian Markov chain Monte Carlo (BMCMC) coalescent framework to estimate the ancestral genealogy, phylogenetics and evolutionary parameters such as nucleotide substitution rates per year and time to the most common ancestor (tMRCA) with BEAST package version 1.8.1.

**Results** Pattern of population growth are similar between subtype B in Brazil and in Pernambuco showing a pattern of steep exponential growth followed by a plateau in the diversity. Population dynamics of subtype F shows a moderate growth phase continuously expanding and the beginning of infection started later than that of global subtype F infection. The coalescent method also provided the date of introduction of HIV-1 in Pernambuco since the inferred time to the most recent common ancestor (tMRCA) was 1978 (95% CI: 1971–1981) and 1982 (95% CI: 1977–1986) respectively for the subtypes B and F.

**Conclusion** Introduction of subtype B occurred earlier in other regions of Brazil than in Pernambuco (Northeast, Brazil). Subtype F is in population expansion around the world and in Brazil. In addition, introduction of subtype F in Pernambuco (Northeast) was later than in the country (1982, CI95%:

1977–1986). These findings support the hypothesis that the viral variability of HIV-1 is increasing in Brazil with the spread of subtypes non-B.

### P3.124 ADOLESCENTS LIVING WITH HIV/AIDS – DIFFERENT APPROACHES IN DIFFERENT MODES OF HIV TRANSMISSION

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**Introduction** Recently, the number of adolescents infected with HIV has been increasing worldwide, but there is still little information available on the characteristics of this population. The aim of this study is to compare the characteristics of adolescents living with HIV attending a Sexually Transmitted Infection (STI) Referral Centre according to the modes of transmission.

**Methods** A cross-sectional study evaluating adolescents between 10 and 19 years of age, carried out from January to August 2012, at the state STI reference centre in Bahia, Brazil. Socio-demographic and clinical data were obtained by reviewing charts and analysed through SPSS 20.0.

**Results** A total of 123 adolescents living with HIV were attended during the study period, 76.3% (90/118) of them acquired the virus through vertical transmission (VT), whereas 22.9% (27/118) acquired via sexual transmission (ST). Regarding the adolescents with VT, the group was younger than the ST, with 93.7% <16 years old ( $p<0.01$ , OR 20.35, 95% CI 6.70–61.83); 78.9% attended school ( $p<0.01$ , OR 0.15, 95% CI 0.04–0.61), 62.1% did not work ( $p=0.02$ ), 55.2% denied use of alcohol ( $p<0.01$ , OR 0.07, 95% CI 0.01–0.65), and 98.7% also denied sexual debut ( $p<0.01$ , OR <0.01, 95% CI 0.00–0.03). On the other hand, patients with a ST infection started their sexual life earlier, with a mean age of 12.9 ( $\pm 3.74$ ) years, 93.8% of them had had previous gestation ( $p<0.01$ , OR 27.5, 95% CI 2.89–262.3), 75.0% had HPV co-infection ( $p<0.01$ , OR 11.5, 95% CI 2.03–64.78) and 88.9% had another STI in the period ( $p<0.01$ , OR 45.71, 95% CI 5.30–394.42). The VT group showed rates of 93.5% of AIDS diagnosis ( $p<0.01$ , OR 72., 95% CI 16.41–315.98) and 100% ( $p=0.01$ ) had had opportunistic infections; 93.1% performed genotyping ( $p=0.02$ , OR 5.87, 95% CI 1.27–27.09) and 85.4% used ART ( $p<0.01$ , OR 8.54, 95% CI 2.72–26.85).

**Conclusion** We observed two distinct groups, defined according to the modes of transmission, both showing specific characteristics. Thus, is it evident the need of customise the health care and promotion according to each group.

### P3.125 KNOWLEDGE ON SEXUALLY TRANSMITTED INFECTIONS/ HIV, SEXUAL RISK BEHAVIOURS AND UTILISATION OF DROP-IN-CENTRES AMONG KEY AFFECTED POPULATION IN MYANMAR

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**Introduction** In Myanmar, People Who Inject Drugs (PWIDs) has the highest HIV prevalence of 18.7% in comparing to other key population. Establishment of drop-in-centre (DIC) and provision of services has been proved as successful intervention for key population. An assessment was conducted to determine the knowledge on sexually transmitted infections (STI)/HIV and utilisation of drop-in-centres among drug users after the establishment of DIC and out-reach activities.

**Methods** A community-based, post-intervention assessment was conducted using quantitative and qualitative methods in under-served areas of north-western border in Myanmar.

**Results** A total of 202 drug users, 156 PWIDs and 46 People Who Use Drugs (PWUDs), were included in the study. Their age ranged from ranged from 18 to 60 years with the mean age of  $34.9 \pm 8.2$  years. Regarding STI knowledge, no one sought to treat STD at the beginning of the intervention but 4% of drug users searched for the treatment at the end. Over 25% knew at least one symptom of STI in men while only 15.3% recognised at least one symptom in women. Knowledge on higher risk of blood borne infections such as Hepatitis B (25% vs. 51%,  $p < 0.1$ ), Hepatitis C (8% vs. 13%,  $p < 0.05$ ) was improved in comparing to pre-intervention. HIV testing rate within six months was also increased from 10% to 74% ( $p < 0.001$ ). Regarding sexual behaviours, percent of drug users who had sex with paid sex partner and who had more than one sexual partner within 6 months were significantly reduced (11% vs. 0.5%,  $p < 0.05$ ; 11% vs. 1%,  $p < 0.05$ ). Regarding drop in centre (DIC), more drug users were aware of DIC (54% vs. 91%,  $p < 0.01$ ) and ever visited there (22% vs. 76%,  $p < 0.01$ ). Almost all of them (94%) ever received DIC services consisted of HIV testing and counselling (47%) and health education service (68%). Nearly half of them (46%) received outreach services and mobile HIV testing covered about 16%.

**Conclusion** Improvement in knowledge and behaviour regarding STI/HIV and DIC utilisation were seen among the drug users after the intervention.

### P3.126 COUNTY-LEVEL SOCIODEMOGRAPHIC FACTORS ASSOCIATED WITH REPORTED CONGENITAL SYPHILIS IN UNITED STATES 2012–2015

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**Introduction** Pregnant women - In the US, Congenital Syphilis (CS) rates have increased 48% between 2012 and 2015. We explored county level sociodemographic factors associated with having reported at least one CS case during 2012 and 2015 among all US counties.

**Methods** The 321 (10.2%) US counties that reported at least 1 CS case during 2012–2015 were compared to the remaining 2829 (89.8%) US counties with no reported CS. Multivariable logistic regression models were constructed to assess factors independently associated with counties reporting CS using adjusted Odds Ratios (aOR). County level factors examined included: % population black [above or below the national median], % Hispanic population [above or below the national

median], Medicaid expansion state, violent crime rate per 100,000, and the % change in adult male and female syphilis cases between during 2012 and 2015. Final models were determined by comparing likelihood ratio statistics.

**Results** Independent county level factors associated with reporting at least one CS case during 2012–2015 were: Medicaid expansion state [aOR=2.24, 95% CI 1.51–3.34], % black population [aOR=2.86, 95% CI 1.79–4.57], % Hispanic [aOR=2.13, 95% CI 1.41–3.24], 10 unit change in violent crime rate [aOR=1.04, 95% CI 1.02–1.05], and 10 unit change in % change in female syphilis [aOR=1.02, 95% CI 1.00–1.03].

**Conclusion** CS in the US is highly geographically focused with only 10.2% of counties reporting any cases in the past 4 years. Socioeconomic and demographic factors working at the community level are associated with increased odds of having reported a case of CS. Interventions to prevent CS in the US should focus at community, as well as individual level.

### P3.127 ANALYSIS ON ACCURATE DIAGNOSIS AND STANDARDISED TREATMENT OF REPORTED SYPHILIS CASES IN SHENZHEN

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**Introduction** To investigate the accurate rate of diagnosis and the standardised rate of treatment of reported syphilis cases in Shenzhen and to provide evidence for further prevention strategies.

**Methods** Data of syphilis cases reported from July 1, 2013 to June 30, 2014 were downloaded from the 'China Information System for Disease Control and Prevention'. Randomised sampling method was used to select cases from the download database. Medical staff compared the information from the selected cases with doctors' daily record, patients' laboratory test results and pharmacy prescriptions from medical institutions. The accuracy of diagnosis and standardisation of treatment were evaluated based on the *Diagnostic Criteria and Management of Syphilis Guidelines* (Ministry of Health, China, 2007).

**Results** This study totally selected 1589 syphilis cases for evaluation. The accurate rate of diagnosis was 95.53% for total, and the rates were 83.59%, 96.60%, 97.73%, 100.00% and 97.37% respectively for primary, secondary, tertiary, congenital and latent syphilis. Nearly 66.08% cases were treated with penicillin therapy and 1.76% cases were treated with replacement therapy. The standardised rate of treatment was 67.84%.

**Conclusion** The accurate rate of syphilis diagnosis is high in Shenzhen, however, the standardised rate of treatment is far from the goal set in the national syphilis control plan. It suggests that training and supervision should be enhanced and modification of communicable disease card (such as adding the diagnosis and treatment information of syphilis cases) should be considered, to improve the rate of accurate diagnosis and standardised treatment of syphilis cases.