

(AOR=1.6,  $p<0.10$ ) were more likely to have HIV/HCV co-infection.

**Conclusion** The study concludes that HIV, HCV, and HIV/HCV co-infection were highly prevalent among IDUs because of their risky injecting behaviour. HIV prevention program should also focus on the prevention of coinfection with HIV/HCV.

**P3.201** **DISPARITIES IN *CHLAMYDIA TRACHOMATIS* SEROPREVALENCE ACROSS ETHNIC GROUPS IN AMSTERDAM: THE ROLE OF SEXUAL HEALTHCARE SEEKING BEHAVIOUR**

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**Introduction** In the Netherlands, there are strong disparities in *Chlamydia trachomatis* (CT) prevalence among ethnic groups. The highest prevalence is found among individuals from Surinamese descent. Previous research suggested that socio-economic status (SES) may be important in explaining these differences. In ethnic groups with high CT prevalence, low SES might lead to infrequent sexual healthcare seeking behaviour. We investigated whether differences in sexual healthcare seeking behaviour could explain disparities in CT prevalence between ethnic groups in the Netherlands.

**Methods** We used the 2011–2014 baseline data of HELIUS, a population-based multi-ethnic cohort study in Amsterdam, the Netherlands. CT was diagnosed using a multiplex serology assay. A directed acyclic graph was created to depict the hypothesised causal links between ethnicity and CT infection. The associations between CT seropositivity and its determinants were assessed with logistic regression analyses.

**Results** The sample consisted of 1977 individuals, with a median age of 28 (IQR 24–31) of which 52.9% were female. CT seropositivity was highest among African-Surinamese (69.7%), followed by Ghanaian (67.9%), South-Asian Surinamese (39.8%), Dutch (36.4%), Moroccan (35.2%) and Turkish (30.5%) participants. Sexual healthcare seeking behaviour was highest among Afro-Surinamese and Ghanaian participants. After adjusting for sexual healthcare seeking behaviour, SES and sexual risk behaviour, being of African-Surinamese (adjusted Odds Ratio [aOR]: 3.97; 95% CI 2.41–6.55) or Ghanaian (aOR: 2.48; 95% CI 1.27–4.86) descent remained strongly associated with CT seropositivity when compared to Dutch participants.

**Conclusion** Disparities in CT (sero)prevalence across ethnic groups in Amsterdam were observed and in line with literature. Higher CT seroprevalence in African-Surinamese and Ghanaian participants could not be explained by differences in sexual healthcare seeking behaviour, or other potential mediators of the association (e.g. SES and sexual risk behaviour).

**P3.202** **PROFILE OF TRANVESTITES AND TRANSGENDER WOMEN: TUBERCULOSIS AND HIV/AIDS IN THE CITY OF SÃO PAULO**

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**Introduction** In Brazil most transvestites and transgender women live unfavourable social conditions. Excluded from family and school, they find in prostitution the only form of survival.

There are few studies that distinguish epidemiological data between transvestites and transgender women, and those performed with other groups with the same social characteristics point to vulnerability to HIV/AIDS and co-infection tuberculosis. The absence of socio demographic and health data on this population makes it difficult to analyse in depth, compromising the control of health problems. This study characterised the profile of transvestites and transgender women participating in a survey regarding tuberculosis and HIV/AIDS in the city of São Paulo, Brasil

**Methods** This cross-sectional study employed the Knowledge, Attitudes and Practices (KAP) questionnaire adapted for data collection. Socio demographic aspects as well as aspects related to history of imprisonment, process of gender transition, use of condoms, previous treatment of sexually transmitted diseases and tuberculosis and knowledge regarding HIV/AIDS were addressed.

**Results** The study included 58 transvestites and 66 transgender women. There were differences between the two groups regarding shooting ( $p=0.008$ ), prostitution ( $p<0.001$ ), imprisonment ( $p<0.001$ ), silicone injections ( $p=0.005$ ), and hormone therapy without medical guidance ( $p=0.004$ ). All trans women (100%) and 80% of transvestites mentioned treatment of syphilis; 25.9% of transvestites reported tuberculosis/HIV co-infection. The investigation regarding knowledge of HIV/AIDS revealed inconsistent use of condoms and mistaken beliefs related to modes of transmission.

**Conclusion** The present results show that transvestites and trans women were vulnerable to tuberculosis and HIV/AIDS. The differences observed between the two groups suggest the need for different approaches to transvestites and transgender women in future studies.

**P3.203** **EPIDEMIOLOGY OF HIV AMONG CRACK USERS IN GOIÁS, BRAZILIAN MIDWESTERN REGION**

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**Introduction** Midwestern Brazil is a significant route and market for cocaine in South America. The consumption of illicit drugs has contributed to HIV dissemination worldwide. Despite this scenario there is little information on the epidemiology of HIV among crack cocaine users in this region. The aims of this study were to estimate the prevalence, risk

factors and HIV-1 subtypes among crack users in Goiânia, a city in Midwestern Brazil.

**Methods** A total of 600 crack users were interviewed and blood samples were collected for detection of anti-HIV-1. HIV-RNA was detected in positive samples, the HIV-1 protease (PR) and reverse transcriptase (RT) regions were sequenced; subtypes were assigned by REGA/phylogenetic analysis. HIV-subtypes were assigned by REGA. Univariate and multivariate analysis were carried out to identify predictors of HIV infection. This study was analysed and approved by the Committee on Ethics in Human Research of Hospital das Clínicas, Universidade Federal de Goiás.

**Results** The median age of participants was 30 years old, and the majority were male, mixed race, single, and unemployed. Of the total, 2.8% were HIV-positive. Having sex with an HIV carrier, irregular condom use during sexual intercourse, and experience of living on the streets were predictors of HIV positivity ( $p < 0.05$ ). In 12 out of 17 crack users RNA HIV-1 were amplified and sequenced. Seven isolates were subtype B, one subtype F1 and one subtype C.

**Conclusion** A high HIV prevalence was observed among crack users in Midwestern Brazil, a region far from the epicentre of HIV epidemiology. The predictors of HIV infection identified are concerning, and necessitate preventive strategies for HIV infection specifically directed toward this population. HIV-1 subtype C seems to have emerged over the last few years in this population at the centre of the country.

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### P3.204 PREVALENCE AND RISK FACTORS FOR SYPHILIS IN CRACK USERS IN GOIÂNIA CITY, BRAZIL CENTRAL

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**Introduction** Crack users are at high risk for syphilis, due to multiple risk behaviours, such as inconsistent condom use, exchanging sex for money and/or drugs and multiple sexual partners. However, there is a gap in the literature on the epidemiology of this infection in crack users in developing countries, including Brazil. The aim of this study was to investigate the prevalence and risk factors of syphilis in crack users in Goiânia, Brazil Central.

**Methods** A cross-sectional study was conducted with 600 users of a reference unit for chemical dependency treatment of Goiás, between 2012 to 2013. All participants were interviewed regarding socio-demographic characteristics and risk behaviours and blood samples were then collected for the detection of anti-*Treponema pallidum* antibodies using enzyme-linked immunosorbent assay (ELISA). Positive samples were tested by the Venereal Disease Research Laboratory (VDRL). Active syphilis was considered when there was a positive ELISA result and VDRL titers  $\geq 1:8$ . Poisson regression analysis was used to analyse the factors associated with active syphilis.

**Results** Of the total participants, 13.8% (95.0% CI: 11.3% to 16.8%) were positive in ELISA. The prevalence of active syphilis was 4.5% (95.0% CI: 3.1% to 6.5%). The prevalence of exposure to *Treponema pallidum* and active syphilis was statistically higher in women than in men ( $p < 0.001$ ). In multivariable model, female sex (adjusted prevalence ratio [APR]: 3.73;  $p < 0.001$ ), schooling (APR: 0.88;  $p = 0.030$ ), exchange sex for money and/or drugs (APR: 3.22;  $p = 0.040$ ) and a history of genital ulcers in previous six months (APR: 4.12;  $p = 0.010$ ) were associated with active syphilis.

**Conclusion** The results of this research show high prevalence of syphilis in crack users in Goiânia city. Comprehensive care for this population should be offered, including strategies such as health education, condom provision, and regular infection testing.

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### P3.205 AUGMENTED PARTNER RISK FEATURES BETWEEN TEENAGERS USING ALCOHOL IN THE MOMENT

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**Introduction** Alcohol is an acknowledged risk factor for sexually transmitted illnesses achievement, but the device is unclear. Potentially, teenagers using alcohol in the 2 hours previous to sex (in-the-instant use) have riskier sexual partners.

**Methods** We applied multivariable logistic regression to observe the connexion among in-the-instant alcohol use and partner risk features accounted for the most current sex between principally 16- to 17-year-old teenagers initially engaged from a representative trial of Tirana public elementary schools. We generated 3 combined partner risk outlines: partner awareness risk (informal and unpredicted), partner situation risk (age discordance and met in public), and generally risk using all measures excluding partner alcohol use.

**Results** Adolescents who reported any in-the-instant alcohol use were more expected to nondrinking youngsters to state casual (adjusted odds ratio [AOR], 3.1; 95% confidence interval [95% CI], 1.9–5.0), unpredicted (AOR, 1.5; 95% CI, 1.2–2.7), age dissonant (AOR, 2.8; 95% CI, 1.9–4.5), or met in public partners (AOR, 1.4; 95% CI, 1.0 to 2.1). For each compound evaluation, the number of partner hazard features accounted augmented linearly with the percentage of teenagers drinking in the moment (Cochran-Armitage trend,  $p < 0.0001$ ). In relation to zero characteristics, in-the-moment alcohol use was connected with increased odds of reporting 1 (AOR, 2.5; 95% CI, 1.5–4.8), 2 (AOR, 4.3; 95% CI, 2.8, 7.7).

**Conclusion** The results develop the association among in-the-moment alcohol utilisation and partner hazard accounted in previous surveys to include adolescents' universal sexual knowledge and supplementary partner features counting the extremely allied compound features

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**P3.206 KNOWLEDGE OF HUMAN PAPILLOMAVIRUS AND ITS PREVENTION AMONG UNIVERSITY STUDENTS IN RIO DE JANEIRO, BRAZIL**

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**Introduction** Human papillomavirus (HPV) infection is the most prevalent sexually transmitted virus in the world. One of the barriers to the implementation of prevention programs against the disease is the limited knowledge possessed by most populations regarding the virus and its possible consequences.

**Methods** A total of 473 students aged 18 to 78 years (mean 28.2±9.35) from two public universities from Rio de Janeiro State attending different undergraduate courses from health and non-health area, answered a questionnaire about transmission, clinical features and the possible consequences of persistent HPV infection. The questionnaire was self-applied under the supervision of the authors.

**Results** Although most of the students independent of the study area had already heard of HPV (99.3% from health and 92.2% non-health courses), a significant portion did not associate virus infection with the appearance of warts in the genital tract (40,3% from health and 62.7% from non-health courses). Among female students enrolled in non-health courses, 61.1% did not recognise cervical cancer as a possible consequence of HPV infection. Considering the knowledge of risk situations as a basic form of prevention of HPV infection, only 33.2% of the students from non-health courses identified 3 or 4 of the four HPV infection risk situations presented in the questionnaire. Even the use of condoms, a basic STD prevention attitude, was not recognised by 13% of the students interviewed regardless of the attending course. At the end of the interview all participants received an informative folder on the issues investigated.

**Conclusion** Results highlight the need for educational campaigns regarding HPV infection, its potential as a cervical cancer agent and the forms of prevention available among university students.

**P3.207 HUMAN PAPILLOMAVIRUS INFECTION IN ORAL AND ANOGENITAL SITES: PREVALENCE AND RATES OF CONCORDANCE**

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**Introduction** HPV infection causes cancer at several anatomical sites. However, the natural history of the infection in non-cervical sites have been understudied, especially at the oral epithelium.

**Methods** In our study, we investigated 351 samples from three different sites of 117 patients, searching for HPV By generic and specific PCR and Microarray, and related risk factors.

**Results** HPV DNA prevalence was 89.5% (105/117) in the genital lesions, 53.8% (63/117) in oral samples and 59% (69/117) in anal samples. Regarding the risk factors associated with HPV in the genital lesions, we found statistically

significant rates for oral ( $p=0.039$ ) and anal sex practices ( $p=0.000012$ ). For oral samples, we observed a relevant correlation concerning oral contraceptive use ( $p=0.039$ ), tobacco smoking ( $p=0.036$ ) and alcohol use ( $p=0.0075$ ) while in anal samples, we found higher risk for HPV infection in patients relating non-exclusive sexual partners ( $p=0.013$ ). The presence of viral DNA in all the three sites was observed in 36.8% of the cases (43/117). Among them, 18% (21/117) presented concordant HPV genotypes, diverging from the literature, corroborating that there is still much to learn about HPV natural history, since different biological behaviours are expected within different populations.

**Conclusion** In our study we also evaluated if the detection of oral HPV would suggest an infection in the anogenital tract. Nevertheless, our results showed only 36.8% of correlation pointing out that it is not suitable as a an auxiliary biomarker for HPV anogenital infections.

**P3.208 THE INFECTION WITH HUMAN PAPILLOMAVIRUS (HPV) TYPE 16 FEATURES GREATER CHANCE TO P16INK4A GENE METHYLATION IN CERVICAL LESIONS COMPARED TO OTHER VIRAL TYPES**

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**Introduction** Studies have shown that persistent infection by high risk human papillomavirus (HR-HPV), especially type 16, is responsible for cervical cancer development. For the development of a malignant phenotype, several mechanisms are involved, among them the process of epigenetic DNA methylation, which results in gene silencing, leading to abrogation of cell cycle control, escape from senescence, and induction of proliferation, that therefore can collaborate in carcinogenesis. Understanding how the epidemiological factors can influence the mechanism of methylation related to infection of the HR-HPV is an unclear situation to be unveiled. The objective of this study was to evaluate the infections caused by HPV16 in patients attended at Gynaecology Institute, of UFRJ, in the period between 2012 and 2013, considering aspects of methylation in host gene p<sup>INK4a</sup>.

**Methods** The cervical smears were submitted to the detection of HPV DNA by Polymerase Chain Reaction (PCR) using primers MY09/11, genotyped with primers for the E6 gene of HPV16, evaluated the methylation of the host pINK4a gene by Nested-MSP technique, and collected epidemiological data, which included socio-demographic and behavioural factors of each patient; and, the data of the diagnostic test that served as reference, the cytopathology.

**Results** Our results showed nearly 76% of the studied samples presented some degree of gene p<sup>INK4a</sup> methylated, while 24% were unmethylated. The results showed statistical significance for the correlation of the cytopathology with sexarca ( $p=0.05657$ ), smoking ( $p=0.0317$ ), pregnancies ( $p=5938e-05$ ), parity ( $p=0.004425$ ) and number of partners ( $p=0.0242$ ). The p16 gene methylation correlations that showed statistical significance were pregnancy ( $p=0.02725$ ), parity ( $p=0.01414$ ), and typing ( $p=0.008121$ ).

**Conclusion** We have found that the presence of HPV16 is associated with a greater chance of methylation of p16 in the lesions. Although, we also observed that the methylation of