P372 BACTERIAL VAGINOSIS AND HIGH-RISK HUMAN PAPILLOMAVIRUS COINFECTION AMONG AFRICAN AMERICAN WOMEN IN THE UNITED STATES

1Purnima Madhivanan*, 1Makella Couday, 2Daniel Ruiz-Perez, 3Brett Colbert, 4Karl Krupp, 5Hans Kumari, 4Kalai Mathee, 2Giri Narasimhan, 1Florida International University, Epidemiology, Miami, USA; 2Florida International University, Bioinformatics Research Group, Miami, USA; 1Florida International University, Department of Biological Sciences, College of Arts and Sciences, Miami, USA; 2Florida International University, Department of Health Promotion and Disease Prevention, Robert Stempel College of Public Health, Miami, USA; 3Florida International University, Biomolecular Sciences Institute, Miami, USA

Background Bacterial vaginosis (BV) increases the risk of many sexually transmitted infections. The co-occurrence of persistent BV and high-risk HPV (HrHPV) increases the risk of developing cervical cancer. This study aims to investigate the co-occurrence of HrHPV and BV among young women in the US.

Methods Stored vaginal swabs were acquired from a previously completed clinical trial. The kinds of bacteria present in the samples were identified by classifying 16S rRNA gene sequences in each sample using high-throughput pyrosequencing. HPV genotyping was performed using quantitative polymerase chain reaction using TaqMan probes in a customized plate (Thermo Fisher Scientific; Waltham, Massachusetts).

Results Eighty reproductive age African American (AA) women were included in the analysis. The point prevalence of HrHPV was 48.1% (95%CI: 37–59%). The mean age of the participants was 21.4 years (SD: 2.11), 81.2% graduated high school. Prior antibiotic use was low (3.8%), and 75% were not treated for BV during their lifetime. Among those who had been treated previously for BV, most women were treated ≥ five times (60%). According to Nugent Scores, 70% had BV, 13.7% had intermediate flora and 16.3% were healthy.

Conclusion Co-occurrence of BV and HrHPV was found among African American young women. The prevalence of HrHPV was 48.1%, and BV was detected in 70% of the participants. Factors such as prior antibiotic use and number of treatments were associated with BV.

Disclosure No significant relationships.

P373 CO-OCCURRENCE OF BACTERIAL VAGINOSIS AND TRICHOMONAS VAGINALIS AMONG YOUNG AFRICAN AMERICAN WOMEN

1Purnima Madhivanan*, 1Makella Couday, 2Daniel Ruiz-Perez, 3Brett Colbert, 4Karl Krupp, 5Hans Kumari, 4Kalai Mathee, 2Giri Narasimhan, 1Florida International University, Epidemiology, Miami, USA; 2Florida International University, Bioinformatics Research Group, Miami, USA; 1Florida International University, Department of Biological Sciences, College of Arts and Sciences, Miami, USA; 2Florida International University, Department of Health Promotion and Disease Prevention, Robert Stempel College of Public Health, Miami, USA; 3Florida International University, Biomolecular Sciences Institute, Miami, USA

Background While the etiology of bacterial vaginosis (BV) is still not known, it is described as a polymicrobial condition that lacks lactic-acid producing Lactobacillus species with an overgrowth of anaerobic bacteria and elevated vaginal pH. This study aims to evaluate the relationship between BV assessed by Nugent scoring of vaginal Gram stain and Trichomonas vaginalis infection among African American young women in the U.S.

Methods Stored vaginal swabs from a previously completed clinical trial were acquired for this study. The kinds of bacteria present in the samples were identified by classifying 16S rRNA gene sequences using high-throughput pyrosequencing. Vaginal smears were also categorized by the Nugent Gram stain score (0–3, normal; 4–6, intermediate state; 7–10, BV). TV genotyping was performed using quantitative polymerase chain reaction performed using TaqMan probes in a customized plate (Thermo Fisher Scientific; Waltham, Massachusetts).

Results This study included 80 African American reproductive age women with a mean age of 21.4 years (SD: 2.11). Most (81.2%) women had graduated high school. 70% (95% CI: 37–59%) had BV, 13.7% had intermediate and 16.3% had healthy vaginal flora. TV was diagnosed among 11.1% (95% CI: 4–8%) of the women. Prior antibiotic use was low (3.8%), and 75% of women had not been treated for BV during their lifetime. Among those who were previously treated for BV, 60% were treated five or more times. Douching was reported by 49% of the sample. 35% of TV cases had concurrent BV, while 11.1% of TV cases also had intermediate vaginal flora. There were no associations with prior antibiotic use, hormonal contraception, douching or prior treatment.

Conclusion Young African American women of reproductive age found to have abnormal vaginal flora should be screened for Trichomonas vaginalis infection.

Disclosure

No significant relationships.

P374 OVERLAP BETWEEN AMSEL’S CRITERIA, NUGENT’S GRAM STAIN SCORE, AND VAGINAL MICROBIOTA COMMUNITY STATE TYPES

1Antonio Salas, 1Khail Ghanem, 2Rebecca Brotman, 2Jacques Ravel, 1Susan Tuddenham. 1Johns Hopkins University School of Medicine, Baltimore, USA; 2University of Maryland, Institute of Genome Sciences, Baltimore, USA

Background Bacterial vaginosis (BV) is characterized by low-Lactobacilli and increased anaerobes. BV can be determined by clinical assessment (Amsel’s criteria) or microscopy (Nugent scoring); molecular methods are also under study. We investigated concordance between Amsel-BV, Nugent-BV and low-Lactobacillus vaginal microbiota identified via 16S rRNA gene sequencing.

Methods Vaginal swabs and clinical data were collected from women enrolled in a longitudinal study. Amsel’s criteria were determined clinically and Nugent scoring (Nugent-BV=7–10, intermediate=4–6) were determined by microscopy. Vaginal microbiota were characterized using 16S rRNA gene sequencing and categorized into 7 community state types (CSTs): 4 dominated by Lactobacillus spp. (CST I, II, III and V), and 3 by Streptococcus spp. (CST VI), Bifidobacterium spp. (CST VII), or a variety of anaerobes (CST IV).