delivery. For each placenta delivered, 3 placental tissue types (placental membrane roll, umbilical cord and fetal plate) were collected. Slides were assessed for histologic diagnosis of maternal and fetal ACA by microscopic evaluation of neutrophilic infiltration of the placenta using a grading scale. The primary outcomes were preterm birth (< 37 weeks) and low birth weight (LBW, < 2500gm). Biopsies were collected from a total of 486 placentas, with 483 included in the analysis (40.4% HIV infected, 59.6% HIV uninfected). Evidence of maternal ACA was seen in 44.3% of samples (21.2%mild, 12.3% moderate, and 10.8% severe). Evidence of fetal ACA was seen in 26.1% of samples (15.5%mild, 8.9% moderate, and 1.7% severe). There were no significant associations between HIV status or gravidity and maternal or fetal ACA. HIV infected women with evidence of moderate-severe ACA had a significantly higher risk of preterm birth (25.0% vs. 6.0%; RR=3.97, 95% 1.68-9.36, p=0.002) and LBW (22.7% vs. 9.4%; RR=2.14, 95% CI 1.03-4.43, p=0.04) compared to those with mild or no ACA after adjusting gravidity and maternal age. There was no significant association between evidence of maternal ACA and adverse birth outcomes among HIV uninfected women or between fetal ACA and adverse birth outcomes regardless of HIV status. Histological evidence of maternal ACA was associated with an increased risk of preterm birth and LBW among HIV infected women but not HIV uninfected women.

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CHARACTERIZATION OF ANTI-*HELICOBACTER PYLORI* PEPTIDES PRESENT IN THE HEMOLYMPH OF *HERMETIA ILLUCENS* LARVAE

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More than half of the global population is infected by the gastric pathogen *Helicobacter pylori*, often since childhood. This waterborne bacteria is known to cause chronic gastritis, peptic ulcers, and is a risk factor for gastric adenocarcinoma development. It is highly prevalent in tropical developing nations. Chemotherapeutic eradication of *H. pylori* is necessary to treat the accompanying gastrointestinal disorders. However, resistance to first line antibiotics is increasing, especially for clarithromycin (17.5%) and metronidazole (34.9%). Therefore, we are searching for alternative chemotherapeutic agents, such as antimicrobial peptides (AMPs) from insects. AMPs are immune system molecules present in every living organism; indeed, some have been found with activity against multidrug resistant bacteria. Our research focuses on the Black Soldier Fly (*Hermetia illucens*), a saprophytic dipteran that can tolerate pathogen-rich environments, such as decomposed waste and manure. Due to its life cycle, we postulate that it is a rich source of useful AMPs. Hemolymph peptidome analysis of inoculated *H. illucens* larvae using centrifugal filtration and sequential reverse-phase preparative liquid chromatography revealed a fraction of 3-10 kDa that had a minimal inhibitory concentration of 31.3 µg/ml against *H. pylori* ATCC®43504. Mass spectrometry (MS) divulged that the active fraction contained four polycationic peptides with masses near 4.2 kDa (~36 aa). Production of these peptides is inducible, as their expression hardly occurred in uninoculated control larvae. These peptides have very similar sequences and no disulfide bridges. To our knowledge, this is the first time that an antibacterial effect against Gram-negative microorganisms has been demonstrated in *H. illucens.* We are now trying to elucidate the primary sequence of the active peptides using MS.

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UTILIZING THE GENEEXPERT TESTING SYSTEM FOR SEXUALLY TRANSMITTED INFECTION DIAGNOSIS IN THE DEMOCRATIC REPUBLIC OF THE CONGO

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Sexually transmitted infections (STIs), excluding HIV, are the second most common cause of healthy life years lost by women 15 - 44 years old in Africa. More than one million STIs are acquired every day worldwide, and many are asymptomatic. In many resource-limited countries, including the Democratic Republic of the Congo (DRC), a syndromic approach for testing and treating STIs is used. This method is non-specific and often leads to misdiagnosis and mistreatment, which can generate serious reproductive health consequences and promote antibiotic resistance among vulnerable populations. From October 2016 to March 2017, we conducted a cross-sectional study in pregnant women receiving antenatal care in Kisantu, DRC to compare self-reported and clinically-observed syndromic diagnosis to a PCR-based GeneXpert® rapid testing technology (Cepheid, Sunnyvale, CA). Consenting participants were enrolled; completed a questionnaire on sociodemographic factors, sexual history, and STI symptoms; and had a vaginal swab collected during clinical observation of the genital area. Swab specimens were tested with the Xpert® CT/NG Assay and Xpert® TV Assay for *Chlamydia trachomatis, Neisseria gonorrhea* and *Trichomonas vaginalis*, respectively. Among 352 pregnant women, 59 (16.8%) self reported vaginal symptoms (ulcer, vaginal discharge, genital warts). Of those women, 6.7%, had clinically-observed symptoms or lesions, and 15.2% were found positive for an STI via GeneXpert®. Almost the same percentage of asymptomatic women (15.0%, n=44/293) were also found positive upon nucleic acid amplification testing, resulting in very low symptom reporting-based sensitivity and specificity (17.0% and 83.3%, respectively) when compared against the gold standard technology. These results suggest that syndromic STI management is insufficient, and that GeneXpert® technology may be appropriate for disease diagnosis in resource-limited areas. Rapid NAAT diagnosis allows for detection of STI-positive women who may have been missed by traditional syndromic testing and further identifies specific infective species to ensure proper and timely treatment.

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FREQUENCY OF ANTIBIOTIC RESISTANCE AND ADHESION GENOTYPES IN *ESCHERICHIA COLI* STRAINS ISOLATED FROM VAGINAL INFECTIONS

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The purpose of this work was to establish the frequency of the genes encoding adhesins (*fimH, papA, papC, papEF, papGI, papGII, papGIII, iha*, *afa*, *sfa, sfaS*, *bmaE*, *focG,* and *gafD*), and antibiotic resistance genes [*aac3-IV* (gentamicin), *CITM* (betalactams), *cmla* (chloramphenicol), *tet(A)* and *tet(B)* (tetracyclin), *dfrA1* (trimethoprim) and *qnr* (quinolones)] in a group of cervicovaginal *Escherichia coli* strains (CVEC). We analyzed 200 strains of *E. coli* isolated from patients with cervicovaginal infections from the outpatient clinic of two IMSS clinics in the State of Mexico.