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**Session:** 263. HIV: ART Resistance and Adherence  
**Saturday, October 5, 2019: 12:15 PM**

**Background.** HIV therapy has been moving toward smaller size, once a day regimens in hopes of improved adherence. Surprisingly, few publications characterize HIV patient's pill preferences. To evaluate HIV-negative or treatment-naïve pill preference, we conducted a prospective randomized study at the Infectious Diseases Clinic at Henry Ford Hospital in Detroit, MI.

**Methods.** Fifty patients were recruited, receiving questionnaires regarding factors influencing the ease of swallowability, medication habits, pill preferences and adherence while being randomized to receive placebo pills representing currently FDA approved combination antiretrovirals DTG/ABC/STC and BIC/FTC/TAF. Statistical analyses presented are descriptive.

**Results.** Patients preferred pills or tablets (84%) as their preferred form of medication. Patient's ideal pill length was reported between 4-9 millimeters (90%), with no responses > 13 mm. The most important factors for ease of swallowability were stated as size (40%) and smoothness (38%). Interestingly, 80% of participants then reported that size and shape of the pills was only “some or less” important to them for their pills; however, 32% of participants stated that size, and shape (16%), could make them not want to take a pill daily. When offered the choice of regimens, patients preferred taking more, smaller pills (42%) vs. fewer larger pills (36%) or liquids (14%). Three most common factors indicated as making medication adherence difficult included taking multiple doses daily (38%), large pills (16%), and multiple pills per dose (14%). When given free response, pills having a smooth coating was reinforced by 10 of the 25 (40%) participants who commented.

**Conclusion.** Patient preferences for medications are varied and nuanced, but carry implications on patients self-reported likelihood to remain adherent to a regimen. Care should be taken in a clinical setting, such as HIV, to take pill characteristics into account when selecting antiretroviral regimens for patients.

**Disclosures.** All authors: No reported disclosures.

**2512. Decreasing Adherence to Antiretroviral Therapy over 4 Years of Follow-up in a Commercially-Insured Population of Patients with HIV**  
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**Session:** 263. HIV: ART Resistance and Adherence  
**Saturday, October 5, 2019: 12:15 PM**

**Background.** This study compared yearly and longer term antiretroviral (ARV) adherence among HIV patients overall and by single-tablet regimens (STRs) vs. multi-tablet regimens (MTRs).

**Methods.** A retrospective study using Optum Clinformatics US-based claims data was conducted. Patients with an HIV-1 diagnosis during 2011–2017, age ≥ 18 years at index (date of first complete ARV regimen during the study period), and continuous enrollment for ≥ 3 months before index (baseline) and ≥ 12 months after index (observation) were included. MTRs were required to be comprised of 3 or more agents across at least 2 classes. Adherence was measured as the proportion of days covered (PDC) and compared using a Chi-square test. PDC was examined in the 1-year observation period for the overall analysis, and each year following index among patients with ≥ 4 years of follow-up (Table 2), similar but slightly worse trends were observed (67% vs. 58%, P < 0.90 was 63% overall (Table 1), and greater for STR than MTR (P = 0.026, 95% CI −0.07–0.12, p = 0.554). Meta-regression demonstrated that virologic suppression did not significantly vary by study type (b = −0.642, 95% CI −0.09–0.001, P = 0.057) and patient selection of the treatment supporter (b = 0.026, 95% CI −0.07–0.12, P = 0.554).

**Conclusion.** Optimal ART adherence is marginally higher in treatment supporter interventions compared with the standard of care. Patient-nominated supporters achieve similar rates of virologic suppression to facility-selected supporters, and could play a critical role in addressing disparities in health outcomes among PLWH.
Session: 264. HIV: Pathogenesis
Saturday, October 5, 2019: 12:15 PM

Background. Immune non-response (INR) for people living with HIV (PLWH) is the inability to regain healthy CD4 counts despite viral suppression (VS) on antiretroviral therapy (ART). We identified factors associated with INR in two methodologically similar but demographically diverse cohorts with open access to care and assessed the relationship between INR and incident serious non-AIDS event (SNAE).

Methods. The US Military HIV Natural History Study (NHS) and the African Cohort Study (AFRICOS) are multisite, open cohort studies enrolling PLWH. Participants with 2 years of <400 copies/ml on ART were evaluated for INR, defined as CD4 <350 cells/µL at 2 years. Logistic regression was used to estimate adjusted odds ratios (aOR) and 95% confidence intervals (CI) for factors associated with INR, Cox proportional hazards regression produced adjusted hazard ratios (aHR) and 95% CIs for factors associated with incident SNAE (first non-AIDS cancer, cardiovascular, gastrointestinal, genitourinary, liver, musculoskeletal or respiratory event) after 2 years of VS.

Results. 10.8% of the 1,784 NHS and 25.8% of the 984 AFRICOS subjects had INR. The AFRICOS cohort was older and had a higher proportion of females. In both cohorts, immune non-responders were significantly older and had a significantly lower CD4 at ART initiation. Those with INR also took longer to reach 2 years of VS since starting ART. Odds of INR decreased by over 60% for every 100 cell increase in baseline CD4 in both cohorts (NHS aOR = 0.31 [95% CI 0.26, 0.37]; AFRICOS aOR = 0.36 [95% CI 0.21, 0.86]). In the NHS, hazard of incident SNAE was 61% higher for those with INR (aHR = 1.61 [95% CI 1.12, 2.33]). Probability of SNAE-free survival at 15 years since 2 years of VS was approximately 20% lower comparing those with and without INR; nearly equal to the differences observed by 15-year age groups.

Conclusion. INR was common in two diverse cohorts with open access to care and treatment. The association between SNAEs suggests early identification of and interventions to prevent or reverse INR may improve clinical outcomes, but further study is needed. The clinical relevance of INR highlights the value of early HIV identification and treatment, and suggests CD4 monitoring at ART initiation and post-VS is important settings where INR is prevalent.

Table 1. Comparison of baseline demographic and clinical characteristics in the NHS and AFRICOS

Table 2. Unadjusted and adjusted logistic regression results for predictors of INR in the NHS and AFRICOS

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