FIELD EVALUATION OF A DUAL TREPONEMAL/NON-TREPONEMAL POINT-OF-CARE TEST FOR SYPHILIS WITHIN AN HIV PREP PROGRAM IN HANOI, VIETNAM

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Background:
Syphilis infections are high among men who have sex with men (MSM) on HIV pre-exposure prophylaxis (PrEP). Point-of-care testing (POCT) may improve diagnosis and treatment. We performed a field evaluation of a dual treponemal/non-treponemal POCT within an HIV PrEP program in Hanoi, Vietnam.

Methods:
From December 2023 to March 2024, MSM age ≥18 years reporting sexual activity in the last year were enrolled to evaluate the Chembio DPP Syphilis Screen and Confirm (Medford, NY). Demographic, behavioral, and clinical data were collected. Participants underwent fingerstick for DPP testing and venous blood draw for treponemal (Abbott Bioline or Determine) and non-treponemal (Rapid Plasma Reagin [RPR]) testing. Positive percent agreement (PPA), negative percent agreement (NPA), Cohen's kappa, and 95% confidence intervals were calculated for the DPP versus treponemal/non-treponemal tests.

Results:
The study enrolled 98 participants (median age: 26.8 years; IQR: 22.9–29.6). In the prior six months, 15.3% (15/98) reported group sex and 48.0% (47/98) reported sexualized drug use. Prevalence of treponemal reactivity was 37.9%. PPA for the DPP treponemal test was 75.0% (95% CI: 57.8%–87.9%) and NPA was 93.2% (95% CI: 83.5%–98.1%), with Cohen's kappa of 0.70 (95% CI: 0.52–0.82). Prevalence of RPR reactivity was 17.5%. PPA for the DPP non-treponemal test was 47.1% (95% CI: 23.0%–72.2%) and NPA was 98.8% (95%CI: 93.2%–100.0%), with Cohen's kappa of 0.56 (95% CI: 0.29–0.76). For RPR titers ≥1:8, PPA and NPA of the DPP were 100.0% (95% CI: 54.1%–100.0%) and 96.7% (95% CI: 90.7%–99.3%), respectively, with Cohen's kappa of 0.82 (95% CI: 0.48–0.95).

Conclusion:
Among MSM with a high prevalence of syphilis, DPP tests performed well compared to treponemal tests. While the non-treponemal DPP performance was lower, performance was very high for RPR titers ≥1:8. The DPP test holds promise for identifying high-priority, active syphilis infections within this population.

Disclosure of Interest Statement:

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