High performance of blood-based HIV self-tests at private pharmacies in Kenya

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BACKGROUND

- HIV self-testing (HIVST) has the potential to support daily oral pre-exposure prophylaxis (PrEP) delivery in new community-based settings, but guidelines have not approved HIVST for PrEP dispensing.
- In Kenya, pharmacy providers are permitted to deliver HIVST but to deliver rapid diagnostic testing (RDT), a certificate for RDT delivery is required that few have .

OBJECTIVES

To understand the performance of blood-based (BB) HIVST compared to RDT, the standard of care for oral PrEP delivery, at private pharmacies in Kenya to inform the possible use of HIVST for PrEP scale-up.

METHODS

- **Setting:** At 20 pharmacies in Kisumu County, we trained licensed pharmacy providers (pharmaceutical technologists and pharmacists) on BB HIVST delivery and client assistance (if requested).
- **Participants:** We recruited pharmacy clients purchasing SRH-related products (e.g., condoms) and enrolled those ≥18 years with behaviors associated with HIV risk (e.g., transactional sex).
- **HIV testing:** Participants received BB HIVST with the option of provider assistance, followed by RDT by a certified HIV testing services (HTS) counselor.
- **HIVST interpretation:** Pharmacy providers and clients independently interpreted the HIVST result prior to the RDT, interpreted by the HTS counselor.
- **Performance assessment:** We calculated the sensitivity & specificity of BB HIVST compared to RDT.
- **Misinterpretation assessment:** For discrepant HIVST and RDT results, we compared provider/client HIVST interpretations to images of the HIVST results interpreted by research staff to determine the prevalence of HIVST misinterpretation.

Fig. 1. CONSORT diagram

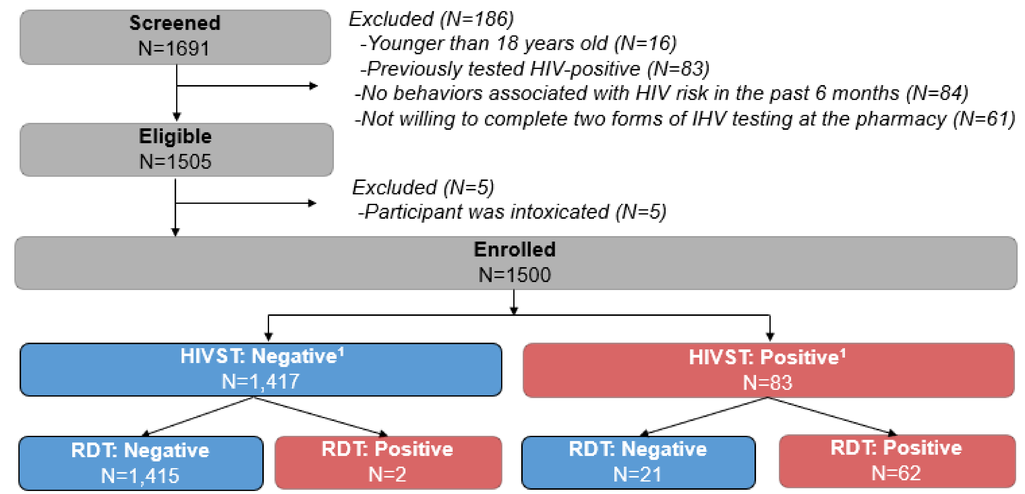
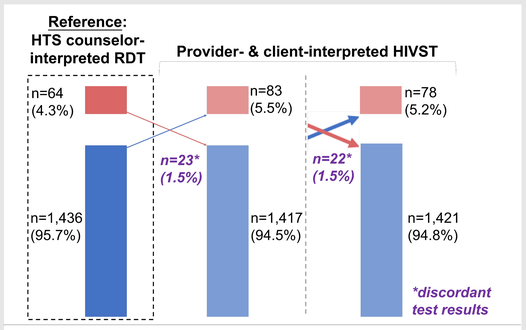
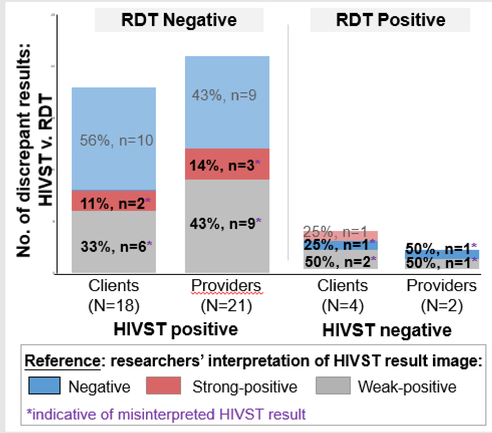


Fig. 2. Performance of BB HIVST compared to RDT at private pharmacies



RDT	Providers interpretation	Client interpretation
Sensitivity	98.5% (97.8%, 99.1%)	98.8% (98.0%, 99.3%)
Specificity	96.9% (89.2%, 99.6%)	93.8% (84.8%, 98.3%)

Fig. 3. Poor performance of HIVST attributable to misinterpretation



RESULTS

- From March and June 2022, we screened 1691 clients and enrolled 1500; 64% (n=954) were female and the median age was 26 years (IQR 22-31), **Fig. 1**.
- The majority (79%, n=1190) of clients requested provider assistance with HIVST and providers reported spending a median of 7.5 minutes (IQR 5-19) with each client.
- Compared to RDT, the performance of pharmacy-delivered BB HIVST was high when interpreted by clients, **Fig. 2**. HIVST misinterpretation was attributable to ~50% of discrepant HIVST and RDT results, **Fig. 3**.

The performance of blood-based HIV self-testing at private pharmacies was **high** compared to rapid diagnostic testing.

CONCLUSIONS

- When compared to the national HIV testing algorithm, the performance of BB HIVST at private pharmacies in Kenya was high.
- **Implications for implementation science research:** These findings suggest that BB HIVST may be considered as an HIV testing option to support PrEP initiation and continuation at private pharmacies and potentially other community-based delivery settings.

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Pharm PrEP