BACKGROUND

Expanded access to antiretroviral therapy (ART) largely through programs supported by the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) has led to global reductions in HIV-related mortality and morbidity.1-4 Emergence of HIV drug resistance (HIVDR) could jeopardize the long-term success of treatment programs and potentially reverse the secular trend toward improved HIV outcomes.5-7 Genotypic testing for HIVDR is rarely available in resource-limited settings such as sub-Saharan Africa, where empiric ART selection strategies could promote further development and transmission of resistant viruses in populations with a high burden of untreated HIVDR.8,9 As ART access continues to improve, it is essential that routine surveillance be conducted for anticipated resistance to specific drugs based on scoring algorithms and policy decisions6,10 that poor adherence is not the major driver of viremia among PLWH in this study; hence, strategies to improve adherence counseling while delaying ART switch should be reconsidered.

METHODS

The African Cohort Study (Africanos) is a longitudinal study enrolling PLWH and HIV-uninfected adults at 12 PEPFAR-supported clinics in Uganda, Kenya, Tanzania, and Nigeria.11-12 Approval was obtained from the institutional review boards of all sites. Plasma samples from participants with HIV-1 RNA >1000 copies/mL at enrollment underwent HIVDR testing and inclusion in these analyses. The Africanos study team would like to thank the study participants and local implementing partners for their valuable contributions to this research.

RESULTS

From 2839 enrolled PLWH, 1097 (38.6%) had HIV-1 RNA >1000 copies/mL and, of these, 972 (88.6%) underwent retrospective HIVDR testing. Among 801 AR-naïve participants, 88 (11.0%) had WHO SDRMs and anticipated resistance to specific drugs included high-level resistance to at least one drug from any class in 8.4% of ART-naïve participants, and high-level resistance to nevirapine in 1.8% (Figure 2B). Among 171 ART-experienced participants, 141 (82.5%) had major NNRTI, 114 (66.7%) had NRTI, and 3 (1.8%) had PI resistance mutations.

CONCLUSIONS

Our findings support the ongoing programming shift to improve inhibitor-based first-line ART and the continued use of PI-based second-line ART in cases of virologic failure.

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