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PREDICTORS OF VIROLOGICAL TREATMENT FAILURE IN THE HIV ROLL-OUT COHORTS OF THE WESTERN CAPE PROVINCE, SOUTH AFRICA

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BACKGROUND: By June 2006 over 18,000 patients from 44 clinics had been put on HAART in this province. About 1.5% fail to maintain virologic suppression and need to be switched to expensive second line treatment with no further treatment options available.

AIM: To identify predictors of virologic treatment failure in this population.

METHODS: Retrospective case control study. Cases: 2× viral loads >1000 copies/mL; switched to second line HAART. Controls: viral load < 400 copies/mL at time of case failure; on first line HAART; matched for treatment duration and clinic attended. Subjects were selected from validated clinic registers. All were aged ≥14 years and naïve to HAART.

RESULTS: From eight clinics (representing 9249 patients in care), 368 eligible patient records (130 cases and 238 controls) were sampled. In multivariate analysis predictors of failure were: low baseline CD4 <150 cells/mm³ (odds ratio (OR) 3.2 [95% confidence interval 1.5 to 6.9], pre HAART mother to child transmission (MTCT) drug usage (OR 3.0 [1.4 to 6.3]); treatment interruptions (TI) (OR 3.7 [2.2 to 6.4]); and nevirapine based HAART (OR 2.0 [1.2 to 3.5]). Of the 238 controls, 174 (73%) had a baseline CD4 count of less than 150 cells/mm³. TI was strongly associated with travel/migration ($p<0.001$); 48/78 (62%) of TI was due to defaulting; 29/48 (60%) of defaulters travelled; 21/ 29(72%) of travelling was to the mainly rural Eastern Cape Province. Use of MTCT drugs within 12 months of starting HAART and use of nevirapine as the MTCT drug were more strongly associated with failure.

CONCLUSIONS: The high prevalence of a very low baseline CD4 is concerning in light of its association with failure. Our study adds insight into the role of TI, choice of NNRTI and MTCT

exposure. Further study of TI and travel is needed working towards intervention.

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