**TABLE 1:** Baseline demographic, clinical, laboratory and regimen characteristics at the time of antiretroviral therapy initiation.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **Age at ART initiation** | | | | | **PR (95% CI)** |
| **18–39.9 years**  **(*N* = 10726)** | | | **Over 50 years**  **(*N* = 1635)** | |
| ***n*** | | **%** | ***n*** | **%** |
| Male gender | 3801 | | 35.4 | 771 | 47.2 | 1.52 (1.39–1.66) |
| **Educational level** | | | | |  | |
| Secondary or higher | 6749 | 84.5 | | 602 | 48.5 | 0.24 (0.22–0.27) |
| Missing | 2739 | - | | 393 | - | - |
| Unemployed | 5878 | 54.8 | | 860 | 52.6 | 0.93 (0.85–1.01) |
| **Alcohol use** | |  | | |  | |
| Uses alcohol | 1113 | 11.5 | | 152 | 10.3 | 0.89 (0.76–1.05) |
| Missing | 1070 | - | | 156 | - | - |
| **Smoking status** | |  | | |  | |
| Smoker | 936 | 9.7 | | 191 | 12.9 | 1.32 (1.15–1.15) |
| Missing | 1082 | - | | 157 | - | - |
| **Tuberculosis co-infection** | |  | | |  | |
| Tuberculosis | 1633 | 15.3 | | 167 | 10.2 | 0.67 (0.57–0.78) |
| Missing | 20 |  | | 0 |  | - |
| Other opportunistic infection | 2502 | 23.3 | | 276 | 16.9 | 0.70 (0.62–0.79) |
| Other AIDS-defining condition | 162 | 1.5 | | 29 | 1.8 | 1.15 (0.82–1.61) |
| WHO stage 3/4 | 4635 | 43.2 | | 652 | 39.9 | 0.89 (0.81–0.97) |
| **Body mass index** | |  | | |  | |
| < 18.5 | 1864 | 22.4 | | 272 | 20.4 | 0.98 (0.86–1.12) |
| 18.5–24.9 | 4797 | 57.6 | | 715 | 53.6 | - |
| ≥ 125.0 | 1669 | 20.0 | | 347 | 26.0 | 1.32 (1.18–1.49) |
| Missing | 2396 | - | | 301 | - | - |
| **Haemoglobin** | |  | | |  | |
| ≤ 10.0 g/dL | 2528 | 28.4 | | 321 | 22.8 | 0.77 (0.69–0.87) |
| Missing | 1812 | - | | 230 | - | - |
| **Alanine transaminase** | |  | | |  | |
| > 40 U/L | 1796 | 21.3 | | 237 | 17.1 | 0.83 (0.73–0.95) |
| Missing | 1859 | - | | 249 | - | - |
| **CD4+ count** | |  | | |  | |
| 0 cells/mm3 – 100 cells/mm3 | 5590 | 59.9 | | 827 | 56.3 | 0.71 (0.54–0.93) |
| Missing | 1389 | - | | 165 | - | - |
| **ART regimen** | |  | | |  | |
| Contains nevirapine (vs. efavirenz) | 1294 | 12.1 | | 60 | 3.7 | 0.31 (0.24–0.40) |
| Contains zidovudine (vs. stavudine) | 395 | 3.7 | | 82 | 5.0 | 1.36 (1.11–1.66) |
| Contains tenofovir (vs. stavudine) | 2106 | 19.6 | | 361 | 22.1 | 1.16 (1.04–1.29) |
| Initiated after APR 2010 (vs. before APR 2010)† | 2184 | | 20.4 | 444 | 27.2 | 1.38 (1.25–1.53) |
| Non-ART drugs associated with toxicity‡ | 1097 | | 10.2 | 192 | 11.7 | 1.14 (0.99) |
| Non-ART drugs associated with drug interaction‡ | 2422 | | 22.6 | 320 | 19.6 | 0.85 (0.76–0.96) |
| Polypharmacy (> 5 non-ART medications) noted‡ | 6232 | | 58.1 | 962 | 58.8 | 1.03 (0.94–1.13) |

Data are presented as % (*n*) unless otherwise indicated.

Age median (IQR): 18–39.9 years = 32.8 (29.0–36.1); Over 50 years = 54.1 (51.8–57.6).

PR, prevalence ratio; CI, confidence interval; ART, antiretroviral therapy.

†,The South African National Department of Health ART guidelines changed on this date from first-line stavudine-containing regimens to first-line tenofovir-containing regimens; ‡,These drugs are listed in the Appendix.

**TABLE 2:** Treatment status, immunological and virological response and treatment complications outcomes after 12 months of antiretroviral therapy by age at antiretroviral therapy initiation.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Treatment outcome** | **Age at ART initiation** | | | | **PR (95% CI)** |
| **18–39.9 years (*N* = 10726)** | | **Over 50 years (*N* = 1635)** | |
| ***n*** | **%** | **n** | **%** |
| **Treatment status at 12 months** | |  | |  | |
| Alive and in care | 8265 | 77.1 | 1189 | 72.7 | Reference category |
| Dead | 807 | 7.5 | 185 | 11.3 | 1.48 (1.29–1.71) |
| Lost to follow-up | 1193 | 11.1 | 160 | 9.8 | 0.94 (0.81–1.10) |
| Transferred out | 461 | 4.3 | 101 | 6.2 | 1.43 (1.19–1.72) |
| **Immunological response†** | |  | |  | |
| Increase CD4+ ≤ 100 cells/mm3 | 1584 | 25.0 | 347 | 37.2 | Reference category |
| Increase CD4+ > 100 cells/mm3 | 4746 | 75.0 | 587 | 62.8 | 0.61 (0.54–0.69) |
| Missing CD4+ | 1935 |  | 255 | - |  |
| **Virological response** | |  | |  | |
| VL unsuppressed (≥ 400 copies/mL) | 885 | 13.5 | 102 | 10.5 | Reference category |
| VL suppressed (< 400 copies/mL) | 5685 | 86.5 | 869 |  | 1.28 (1.05–1.56) |
| Missing VL | 1695 | - | 218 | 89.5 |  |
| **Combined immunological and virological response‡** | |  | |  | |
| VL ≥ 400 and/or increase CD4+ ≤ 100 cells/mm3 | 2183 | 36.2 | 412 | 45.8 | Reference category |
| VL < 400 copies/mL and increase CD4+ > 100 | 3840 | 63.8 | 486 | 54.1 | 0.71 (0.63–0.080) |
| Missing response | 2242 | - | 291 | - |  |
| **Treatment complications†,‡** | |  | |  | |
| Absence of complications | 3810 | 46.1 | 540 | 45.4 | Reference category |
| Presence of complications | 4455 | 53.9 | 649 | 54.6 | 1.02 (0.92–1.04) |

PR, prevalence ratio; CI, confidence interval.

†, Based on patients alive and in care at 12 months; ‡,Surrogate variables for treatment complications were regimen change, single drug switch, drug toxicity noted, VL at six months unsuppressed, missed medical appointment, missed drug pickup and low self-reported adherence.