**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.