**Supplement table 1: Participant characteristics at baseline**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Total**  **(n=50)**  **n(%) or mean(SD)** | **mDAART**  **(n=23)**  **n(%) or mean(SD)** | **Standard care (n=27)**  **n(%) or mean(SD)** |
| Age (years) | 15.8(1.8) | 15.5(1.95) | 16(1.7) |
| Gender:  Female  Male | 27(54)  23(56) | 12(52)  11(48) | 15(56)  12(44) |
| Total time on ART (months) | 78(26) | 80.9(21.6) | 75.3(29.3) |
| BMI-for-age:  Underweight  Normal  Overweight | 14(30)  25(55)  7(15) | 6(27)  12(55)  4(18) | 8(33)  13(54)  3(13) |
| Viral load (log 10 copies/ml) | 4.8(0.8) | 4.8(0.8) | 4.7(0.9) |
| Average self-reported adherence, VAS:  ≥95%  80-94%  <80% | 15(30)  15(30)  20(40) | 6(26)  9(39)  8(35) | 9(33)  6(22)  12(45) |
| Self-reported closely following dosing schedule in past 4 days:  Yes  No | 22(44)  28(56) | 10(43)  13(57) | 12(44)  15(56) |
| Hair atazanavir concentration (ng/mg) (n=44); mean(SD); 95% CI: | 1.4(1.5); 0-3.92 | 1.1(1.4); 0-3.79 | 1.7(1.6); 0-3.98 |

*ART- antiretroviral therapy; BMI- body mass index; VAS- visual analogue scale*

**Supplement table 2: Comparison of participants’ treatment characteristics by treatment arms after follow-up**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **mDAART**  **(n=23)**  **n(%) or mean(SD)** | **Standard care**  **(n=27)**  **n(%) or mean(SD)** | **p-value** |
| Viral load:  <1,000 copies/ml  ≥1,000 copies/ml | 12(52)  11(48) | 8(30)  19(70) | 0.105 |
| Viral load (log10 copies/ml) | 3.3(1.5) | 4(1.5) | 0.048 |
| Viral load change (log10 copies/ml) | -1.5(1.6) | -0.8(1.3) | 0.031 |
| Average self-reported adherence, VAS:  ≥95%  80-94%  <80% | 15(65)  6(26)  2(9) | 10(37)  8(30)  9(33) | 0.050 |
| Self-reported closely following dosing schedule in past 4 days:  Yes  No | 19(83)  4(17) | 10(37)  17(63) | <0.001 |
| Hair atazanavir concentration (ng/mg) (n=42): | 2.9(2.2); 0.5-7.2 | 2.3(2.5); 0-6.6 | 0.203 |

*mDAART- modified directly administered antiretroviral therapy; VAS- visual analogue scale*

**Supplement table 3: Multivariate logistic regression comparing mDAART referenced to standard care**

|  |  |  |
| --- | --- | --- |
| **Variable** | **Relative risk (95% confidence interval)** | **p value** |
| Self-reported closely following dosing schedule in past 4 days:  Yes | 10(1.9-52.4) | 0.007 |
| Viral load at follow-up:  ≥1,000 copies/ml | 0.2(0.006-7.4) | 0.384 |
| Average self-reported adherence, VAS, at follow-up:  80-94%  <80% | 0.35(0.06-2.1)  0.25(0.03-2.3) | 0.250  0.217 |
| Hair atazanavir concentration (ng/mg):  ≤2.35 | 3.6(0.47-27.3) | 0.217 |

*VAS- visual analogue scale*

**Supplement table 4: Comparison of participants by viral load suppression to <1 000 copies/ml after follow-up**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Viral load <1,000 copies/ml (n=20)**  **n(%) or mean(SD)** | **Viral load ≥1,000 copies/ml (n=30) n(%) or mean(SD)** | **p-value** |
| Age (years) | 15(1.98) | 16(1.66) | 0.080 |
| Gender:  Female  Male | 10(50)  10(50) | 17(57)  13(43) | 0.643 |
| WHO clinical stage at ART initiation:  1-2  3-4 | 8(40)  12(60) | 8(27)  22(73) | 0.322 |
| Latest CD4 cell count (cells/mm3):  <200  200-350  >350 | 7(35)  6(30)  7(35) | 19(63)  6(20)  5(17) | 0.133 |
| Total time on ART (months) | 81.3(17.6) | 75.3(30.8) | 0.217 |
| BMI-for-age:  Underweight  Normal  Overweight | 4(21)  12(63)  3(16) | 10(37)  13(48)  4(15) | 0.499 |
| Study arm:  mDAART  Standard care | 12(60)  8(40) | 11(37)  19(63) | 0.105 |
| Average self-reported adherence, VAS:  ≥95%  80-94%  <80% | 10(50)  8(40)  2(10) | 15(50)  6(20)  9(30) | 0.143 |
| Self-reported closely following dosing schedule in past 4 days:  Yes  No | 14(70)  6(30) | 15(50)  15(50) | 0.160 |
| Hair atazanavir concentration (ng/mg) (n=42):  ≤2.35  >2.35 | 5(28)  13(72) | 16(67)  8(33) | 0.013 |

*WHO- World Health Organisation; ART- antiretroviral therapy; BMI- body mass index; VAS- visual analogue scale; mDAART- modified directly administered antiretroviral therapy*

**Supplement table 5: Comparison of participants by atazanavir concentration in hair after follow-up**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Atazanavir concentration ≤2.35ng/mg (n=18)**  **n(%) or mean(SD); 95% CI** | **Atazanavir concentration >2.35ng/mg (n=24)**  **n(%)or mean(SD); 95% CI** | **p-value** |
| Age (years) | 15.7(1.9); 14.8-16.5 | 15.6(1.4); 15-16.3 | 0.464 |
| Gender:  Female  Male | 15(71)  6(29) | 8(38)  13(62) | 0.030 |
| WHO clinical stage at ART initiation:  1-2  3-4 | 6(29)  15(71) | 9(43)  12(57) | 0.334 |
| Latest CD4 cell count (cells/mm3):  <200  200-350  >350 | 9(39)  8(35)  6(26) | 17(63)  4(15)  6(22) | 0.174 |
| Total time on ART (months) | 75(28); 61.5-87.4-90.7 | 81(23); 70-91.6 | 0.218 |
| BMI-for-age:  Underweight  Normal  Overweight | 6(30)  9(45)  5(25) | 5(26)  12(63)  2(11) | 0.476 |
| Viral load:  <1,000 copies/ml  ≥1,000 copies/ml | 5(24)  16(76) | 13(62)  8(38) | 0.013 |
| Viral load decrease (log10 copies/ml) | -0.7(1.3); -1.2- -0.08 | -1.8(1.5); -2.5- -1.1 | 0.006 |
| Study arm:  mDAART  Standard care | 10(48)  11(52) | 11(52)  10(48) | 0.758 |
| Average self-reported adherence, VAS:  ≥95%  80-94%  <80% | 9(43)  7(33)  5(24) | 12(57)  7(33)  2(10) | 0.507 |
| Change in average self-reported adherence, VAS:  No change  Increased  Decreased | 1(5)  12(57)  8(38) | 6(28)  13(62)  2(10) | 0.031 |
| Self-reported closely following dosing schedule in past 4 days:  Yes  No | 9(43)  12(57) | 15(71)  6(29) | 0.061 |

*WHO- World Health Organisation; ART- antiretroviral therapy; BMI- body mass index; VAS- visual analogue scale; mDAART- modified directly administered antiretroviral therapy*