DO ART NCD Tables & Figures

26 December, 2022

## Main paper tables (South Africa only)

* Table 1: Descriptive statistics of cardiovascular risk in the South Africa site of the DO ART study, by trial arm and gender
* Table 2: Poisson + linear regressions for community follow-up compared with clinic follow-up, and including VS
* Table 3: Poisson + linear regressions with VS as predictor, stratified by treatment arm; with interaction term for VS

  \*\*Note that regression analysis uses smoking as a binary variable (even though descriptive shows categorical, because some of the regressions don’t run otherwise - maybe getting small group problems)

## Distribution figures (South Africa only)

* Figure 1: CVD variables, comparing VS versus not

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## Table 1: Descriptive statistics of cardiovascular risk in the South Africa site of the DO ART study, by trial arm and gender (N = 1010)

|  | **Category** | **Clinic follow-up   n (%)** | **Community follow-up   n (%)** | **Women   n (%)** | **Men   n (%)** | **Total   n (%)** |
| --- | --- | --- | --- | --- | --- | --- |
| Age | 18-39 | 252 (72%) | 490 (74%) | 386 (76%) | 356 (70%) | 742 (73%) |
| 40-59 | 91 (26%) | 164 (25%) | 113 (22%) | 142 (28%) | 255 (25%) |
| 60+ | 7 (2%) | 6 (1%) | 6 (1%) | 7 (1%) | 13 (1%) |
| Gender | Women | 169 (48%) | 336 (51%) | -- | -- | 505 (50%) |
| Men | 181 (52%) | 324 (49%) | -- | -- | 505 (50%) |

| **ii) Lifestyle and other risk** | **Category** | **Clinic follow-up   n (%)** | **Community follow-up   n (%)** | **Women   n (%)** | **Men   n (%)** | **Total   n (%)** |
| --- | --- | --- | --- | --- | --- | --- |
| Smoking Status   [Baseline] | Not at all | 261 (75%) | 497 (75%) | 475 (94%) | 283 (56%) | 758 (75%) |
| Former | 4 (1%) | 3 (0%) | 2 (0%) | 5 (1%) | 7 (1%) |
| Current - occasional | 17 (5%) | 42 (6%) | 13 (3%) | 46 (9%) | 59 (6%) |
| Current - frequent | 68 (19%) | 118 (18%) | 15 (3%) | 171 (34%) | 186 (18%) |
| Days of exercise (per week)   [Exit] | 5-7 | 14 (4%) | 38 (6%) | 13 (3%) | 39 (8%) | 52 (5%) |
| 3-4 | 136 (39%) | 262 (40%) | 185 (37%) | 213 (42%) | 398 (39%) |
| 1-2 | 113 (32%) | 187 (28%) | 163 (32%) | 137 (27%) | 300 (30%) |
| 0 | 54 (15%) | 114 (17%) | 101 (20%) | 67 (13%) | 168 (17%) |
| Unknown | 33 (9%) | 59 (9%) | 43 (9%) | 49 (10%) | 92 (9%) |
| Vegetable intake   [Exit] | Always or usually | 53 (15%) | 122 (18%) | 103 (20%) | 72 (14%) | 175 (17%) |
| Sometimes | 166 (47%) | 326 (49%) | 266 (53%) | 226 (45%) | 492 (49%) |
| Never or rarely | 114 (33%) | 166 (25%) | 107 (21%) | 173 (34%) | 280 (28%) |
| Unknown | 17 (5%) | 46 (7%) | 29 (6%) | 34 (7%) | 63 (6%) |
| Prior stroke or heart attack   [Exit] | No | 328 (94%) | 606 (92%) | 469 (93%) | 465 (92%) | 934 (92%) |
| Yes | 5 (1%) | 9 (1%) | 8 (2%) | 6 (1%) | 14 (1%) |
| Unknown | 17 (5%) | 45 (7%) | 28 (6%) | 34 (7%) | 62 (6%) |

| **iii) Cardiovascular Risk** | **Category** | **Clinic follow-up   n (%)** | **Community follow-up   n (%)** | **Women   n (%)** | **Men   n (%)** | **Total   n (%)** |
| --- | --- | --- | --- | --- | --- | --- |
| Blood pressure   [Exit] | Normal | 171 (49%) | 334 (51%) | 263 (52%) | 242 (48%) | 505 (50%) |
| Elevated | 88 (25%) | 133 (20%) | 99 (20%) | 122 (24%) | 221 (22%) |
| Hypertension Stage 1 | 61 (17%) | 136 (21%) | 104 (21%) | 93 (18%) | 197 (20%) |
| Hypertension Stage 2 | 12 (3%) | 20 (3%) | 16 (3%) | 16 (3%) | 32 (3%) |
| Missing | 18 (5%) | 37 (6%) | 23 (5%) | 32 (6%) | 55 (5%) |
| BMI (kg/m^2)   [Exit] | <18.5 | 10 (3%) | 20 (3%) | 4 (1%) | 26 (5%) | 30 (3%) |
| 18.5-24.9 | 152 (43%) | 268 (41%) | 149 (30%) | 271 (54%) | 420 (42%) |
| 25-29.9 | 100 (29%) | 219 (33%) | 187 (37%) | 132 (26%) | 319 (32%) |
| 30+ | 70 (20%) | 113 (17%) | 142 (28%) | 41 (8%) | 183 (18%) |
| Missing | 18 (5%) | 40 (6%) | 23 (5%) | 35 (7%) | 58 (6%) |
| Hemoglobin A1C (%)   [Exit] | Normal | 235 (67%) | 403 (61%) | 341 (68%) | 297 (59%) | 638 (63%) |
| Prediabetes | 19 (5%) | 35 (5%) | 20 (4%) | 34 (7%) | 54 (5%) |
| Diabetes | 2 (1%) | 6 (1%) | 2 (0%) | 6 (1%) | 8 (1%) |
| Missing | 94 (27%) | 216 (33%) | 142 (28%) | 168 (33%) | 310 (31%) |
| Total cholesterol (mg/dL)   [Exit] | Normal | 324 (93%) | 584 (88%) | 449 (89%) | 459 (91%) | 908 (90%) |
| Borderline High | 1 (0%) | 9 (1%) | 7 (1%) | 3 (1%) | 10 (1%) |
| High | 0 (0%) | 2 (0%) | 1 (0%) | 1 (0%) | 2 (0%) |
| Missing | 25 (7%) | 65 (10%) | 48 (10%) | 42 (8%) | 90 (9%) |
| 10-year CVD risk score   [Exit] | <10% | 255 (73%) | 444 (67%) | 362 (72%) | 337 (67%) | 699 (69%) |
|  | 95 (27%) | 216 (33%) | 143 (28%) | 168 (33%) | 311 (31%) |

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## Table 2. Cardiovascular risk for community follow-up HIV care versus clinic follow-up care, South Africa (N = 1010).

|  | **Unadjusted Analysis** | | | **Adjusted Analysis** | | | **Extended Analysis (VS)** | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **Relative Risk** | **95% CI** | **p-value** | **Adj. Relative Risk** | **Adj. 95% CI** | **Adj. p-value** | **Ext. Relative Risk** | **Ext. 95% CI** | **Ext. p-value** |
| Elevated BP | 0.93 | (0.79,1.09) | 0.368 | 0.94 | (0.81,1.1) | 0.455 | 0.94 | (0.8,1.09) | 0.41 |
| Overweight (BMI >= 25) | 1.03 | (0.91,1.17) | 0.633 | 1.02 | (0.9,1.14) | 0.802 | 1.01 | (0.89,1.13) | 0.925 |
| Elevated blood sugar (a1c >= 5.7) | 1.22 | (0.74,2) | 0.44 | 1.19 | (0.73,1.95) | 0.478 | 1.21 | (0.74,1.97) | 0.457 |
| Smoker [baseline] | 0.99 | (0.79,1.24) | 0.919 | 1.02 | (0.83,1.25) | 0.887 | 1.01 | (0.82,1.25) | 0.893 |

|  | **Unadjusted Analysis** | | | **Adjusted Analysis** | | | **Extended Analysis (VS)** | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **Mean Difference** | **95% CI** | **p-value** | **Adj. Mean Difference** | **Adj. 95% CI** | **Adj. p-value** | **Ext. Mean Difference** | **Ext. 95% CI** | **Ext. p-value** |
| Systolic BP (mmHg) | -0.8 | (-2.16,0.56) | 0.247 | -0.7 | (-2.04,0.64) | 0.306 | -0.69 | (-2.04,0.65) | 0.313 |
| Diastolic BP (mmHg) | -0.03 | (-1.11,1.05) | 0.956 | -0.08 | (-1.13,0.98) | 0.888 | -0.05 | (-1.1,0.99) | 0.923 |
| BMI (kg/m^2) | -0.02 | (-0.68,0.64) | 0.964 | -0.11 | (-0.73,0.51) | 0.726 | -0.2 | (-0.82,0.41) | 0.513 |
| Hemoglobin A1c (%) | 0.04 | (-0.04,0.12) | 0.287 | 0.04 | (-0.03,0.12) | 0.278 | 0.05 | (-0.03,0.12) | 0.26 |
| Total cholesterol (mg/dL) | 3.13 | (-0.18,6.43) | 0.064 | 2.92 | (-0.35,6.19) | 0.08 | 2.37 | (-0.91,5.65) | 0.156 |

* Relative risk is estimated using a GEE poisson model (and log link).
* Mean Difference is estimated using a GEE linear model.
* Unadjusted model adjusts for site only
* Adjusted models includes site, age, smoking and gender.
* Extended model includes model exit viral suppression [binary] plus all adjustment variables

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## Table 3: Cardiovascular risk among people virally suppressed versus those not virally suppressed at endline, in South Africa (N = 983).

|  | **Unadjusted Analysis** | | | **Adjusted Analysis** | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **Relative Risk** | **95% CI** | **p-value** | **Adj. Relative Risk** | **Adj. 95% CI** | **Adj. p-value** |
| Elevated BP | 1.03 | (0.87,1.21) | 0.762 | 1.05 | (0.89,1.24) | 0.535 |
| Overweight (BMI >= 25) | 1.24 | (1.08,1.42) | 0.002 | 1.16 | (1.02,1.32) | 0.024 |
| Elevated blood sugar (a1c >= 5.7) | 0.89 | (0.54,1.46) | 0.644 | 0.95 | (0.58,1.54) | 0.832 |
| Current smoker [baseline] | 0.81 | (0.65,1.02) | 0.071 | 0.95 | (0.77,1.16) | 0.598 |

|  | **Unadjusted Analysis** | | | **Adjusted Analysis** | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **Mean Difference** | **95% CI** | **p-value** | **Adj. Mean Difference** | **Adj. 95% CI** | **Adj. p-value** |
| Systolic blood pressure (mmHg) | -0.33 | (-1.67,1.02) | 0.635 | -0.15 | (-1.48,1.17) | 0.821 |
| Diastolic blood pressure (mmHg) | -0.27 | (-1.35,0.82) | 0.63 | -0.24 | (-1.31,0.82) | 0.652 |
| BMI (kg/m^2) | 1.32 | (0.67,1.98) | 0 | 0.94 | (0.31,1.57) | 0.003 |
| Hemoglobin A1c (%) | -0.02 | (-0.1,0.06) | 0.639 | -0.02 | (-0.1,0.07) | 0.686 |
| Total cholesterol (mg/dL) | 6 | (2.56,9.44) | 0.001 | 5.71 | (2.27,9.15) | 0.001 |

* Relative risk is estimated using a GEE poisson model (and log link).
* Mean difference is estimated using a GEE linear model.
* This analysis does NOT include trial arm.
* Unadjusted model adjusts for site only; adjusted models include site, age, smoking, and gender
* The adjusted model for smoking includes only site, age and gender

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## Table 4: Cardiovascular risk for persons virally suppressed versus not suppressed at exit, South Africa (N = 983).

|  | **Clinic follow-up, Adjusted   (N = 341)** | | | **Community follow-up, Adjusted   (N = 642)** | | | **Interaction   (N = 983)** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **Adj. Relative Risk** | **Adj. 95% CI** | **Adj. p-value** | **Adj. Relative Risk** | **Adj. 95% CI** | **Adj. p-value** | **Adj. p-value** |
| Elevated BP | 0.93 | (0.72,1.19) | 0.542 | 1.17 | (0.94,1.46) | 0.158 | 0.148 |
| Overweight (BMI >= 25) | 1.08 | (0.87,1.34) | 0.489 | 1.21 | (1.03,1.42) | 0.024 | 0.397 |
| Elevated blood sugar (a1c >= 5.7) | 0.76 | (0.32,1.78) | 0.53 | 1.05 | (0.57,1.95) | 0.874 | 0.615 |
| Current smoker [baseline] | 0.95 | (0.67,1.33) | 0.748 | 0.95 | (0.72,1.24) | 0.69 | 0.933 |

|  | **Clinic follow-up, Adjusted   (N = 341)** | | | **Community follow-up, Adjusted   (N = 642)** | | | **Interaction   (N = 983)** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **Adj. Mean Difference** | **Adj. 95% CI** | **Adj. p-value** | **Adj. Mean Difference** | **Adj. 95% CI** | **Adj. p-value** | **Adj. p-value** |
| Systolic BP (mmHg) | -1.58 | (-3.84,0.67) | 0.169 | 0.94 | (-0.7,2.59) | 0.261 | 0.051 |
| Diastolic BP (mmHg) | -0.95 | (-2.62,0.73) | 0.268 | 0.2 | (-1.13,1.53) | 0.767 | 0.182 |
| BMI (kg/m^2) | 0.56 | (-0.49,1.61) | 0.299 | 1.18 | (0.41,1.95) | 0.003 | 0.324 |
| Hemoglobin A1c (%) | 0.06 | (-0.07,0.2) | 0.36 | -0.08 | (-0.18,0.02) | 0.118 | 0.091 |
| Total cholesterol (mg/dL) | 2.06 | (-3.26,7.39) | 0.448 | 7.52 | (2.93,12.1) | 0.001 | 0.115 |

* Note, we drop 27 participants without exit viral load available.
* Relative risk is estimated using a GEE poisson model (and log link).
* Mean Difference is estimated using a GEE linear model.
* Adjusted models includes site, age, smoking and gender.
* The p-value for interaction term comes from the adjusted model with an interaction term between viral suppression and trial arm
* For smoker, the adjusted and extended analyses do not adjust for smoking