## SUPPLEMENTARY APPENDIX

**Table S1:** Risk factor distribution within different age groups

| | 2019 | 2021 | 2022 | 2023 | Total |
|---|---|---|---|---|---|
| **Age 18-39** | n (%) | n (%) | n (%) | n (%) | n (%) |
| Total Number of Participants | 287 | 215 | 564 | 322 | 1388 |
| Total HT | 18 (6.3%) | 21 (9.8%) | 24 (4.3%) | 22 (6.8%) | 85 (6.1%) |
| Newly identified HT at screening | 9 (50%) | 10 (47.6%) | 11 (45.8%) | 15 (68.2%) | 36 (42.4%) |
| Uncontrolled HT | 1 (5.6%) | 0 (0%) | 0 (0%) | 0 (0%) | 1 (1.2%) |
| Controlled HT | 8 (44.4%) | 11 (52.4%) | 13 (54.2%) | 7 (46.7%) | 39 (45.9%) |
| Self-Reported DM | 3 (1.0%) | 5 (2.3%) | 1 (0.2%) | 5 (1.6%) | 13 (1.0%) |
| Overweight/Obesity | 108 (37.6%) | Not recorded | Not recorded | 102 (31.7%) | 210/609 (34.5%) |
| Alcohol Use | 99 (34.5%) | 99 (46.0%) | 195 (34.6%) | 125 (38.9%) | 518 (37.3%) |
| Tobacco use | 26 (9.1%) | 28 (13.0%) | 89 (15.8%) | 119 (37.0%) | 262 (18.9%) |
| Physical inactivity | Not recorded | 83 (38.6%) | 260 (46.1%) | 124 (38.5%) | 467/1101 (42.4%) |
| Education (<7years) | Not recorded | 38 (17.7%) | 14 (2.5%) | 17 (5.3%) | 69/1101 (6.3%) |
| **Age ≥ 40** | | | | | |
| Total Number of Participants | 123 | 161 | 38 | 39 | 361 |
| Total HT | 47 (38.2%) | 64 (39.8%) | 22 (57.9%) | 16 (41.0%) | 149 (41.3%) |
| Newly identified HT at screening | 10 (21.3%) | 32 (50.0%) | 7 (31.8%) | 3 (18.8%) | 52 (34.9%) |
| Uncontrolled HT | 9 (19.1%) | 6 (9.4%) | 4 (18.2%) | 5 (31.2%) | 24 (16.1%) |
| Controlled HT | 28 (59.6%) | 26 (40.6%) | 11 (50.0%) | 8 (50.0%) | 73 (49.0%) |
| Self-Reported DM | 4 (3.3%) | 15 (9.3%) | 4 (10.5%) | 2 (5.1%) | 25 (6.9%) |
| Overweight/Obesity | 90 (73.2%) | Not recorded | Not recorded | 29 (74..4%) | 119/162 (73.5%) |
| Alcohol use | 35 (28.5%) | 57 (35.4%) | 10 (26.3%) | 11 (28.2%) | 116 (32.1%) |
| Tobacco use | 15 (12.2%) | 14 (8.7%) | 3 (7.9%) | 9 (23.1%) | 41 (11.4%) |
| Physical inactivity | Not recorded | 73 (45.3%) | 18 (47.4%) | 27 (69.2%) | 118/238 (49.6%) |
| Education (<7years) | Not recorded | 38 (23.6%) | 5 (13.2%) | 3 (7.7%) | 46/238 (19.3%) |

Results are presented as frequencies and percentages for qualitative variables. Data presented as mean ± SD.

**Table S2:** Characteristics of newly diagnosed HT and uncontrolled HT participants

| | 2019 | 2021 | 2022 | 2023 | Total |
|---|---|---|---|---|---|
| **Newly identified HT at screening** | n(%) | n(%) | n(%) | n(%) | n(%) |
| Total Number of Participants | 18 | 27 | 18 | 16 | 79 |
| Young (18-39) | 9 | 9 | 11 | 14 | 43 (54.4%) |
| Older (≥40) | 9 | 18 | 7 | 2 | 36 (45.6%) |
| Female | 9 | 13 | 5 | 5 | 32 (40.5%) |
| Male | 9 | 14 | 13 | 1 | 37 (46.8%) |
| Black African | 11 | 19 | 12 | 14 | 56 (70.9%) |
| Other Ethnic group | 7 | 8 | 6 | 2 | 23 (29.1%) |
| Self-reported diabetes | 1 | 0 | 1 | 0 | 2 (2.5%) |
| Overweight/Obesity, n=34 | 14 | Not reported | Not reported | 10 | 24 (70.6%) |
| Tobacco Use | 2 | 4 | 5 | 3 | 14 (17.7%) |
| Alcohol Use | 5 | 14 | 9 | 7 | 35 (44.3%) |
| Physical Inactivity, n=61 | Not reported | 15 | 12 | 8 | 35 (57.4%) |
| Education (<7years), n=61 | Not reported | 3 | 1 | 0 | 4 (6.6%) |
| **Uncontrolled HT** | | | | | |
| Total Number of Participants | 10 | 6 | 4 | 5 | 25 |
| Youth (18-25) | 0 | 0 | 0 | 0 | 0 (0%) |
| Young Adult (25-39) | 1 | 0 | 0 | 0 | 1 (4.0%) |
| Middle Age *40-59) | 5 | 3 | 4 | 3 | 15 (60.0%) |
| Elderly (≥60) | 2 | 3 | 0 | 2 | 7 (28.0%) |
| Female | 6 | 3 | 4 | 3 | 16 (64.0%) |
| Male | 2 | 3 | 0 | 2 | 7 (28.0%) |
| Black African | 6 | 2 | 3 | 4 | 15 (60.0%) |
| Other ethnic group | 2 | 4 | 1 | 1 | 8 (32.0%) |
| Self-reported diabetes | 0 | 4 | 2 | 1 | 7 (28.0%) |
| Overweight/Obesity, n=15 | 5 | Not recorded | Not recorded | 5 | 10 (66.7%) |
| Tobacco Use | 0 | 1 | 1 | 1 | 3 (12.0%) |
| Alcohol Use | 4 | 2 | 1 | 1 | 8 (32.0%) |
| Physical Inactivity, n=15 | Not recorded | 3 | 2 | 5 | 12(80.0%) |
| Education (<7years), n=15 | Not recorded | 3 | 0 | 0 | 3 (20.0%) |

Results are presented as frequencies and percentages for qualitative variables. Data presented as mean ± SD.

**Table S3:** Associations between different risk factors and HT

| | **2019** OR (95%CI) | **2021** OR (95%CI) | **2022** OR (95%CI) | **2023** OR (95%CI) |
|---|---|---|---|---|
| Age ≥ 40, years | 6.9 (3.6-13.2) **p<0.0001** | 6.0 (3.3-10.9) **p<0.0001** | 6.3 (3.1-12.7) **p<0.0001** | 1.0 (0.2-4.4) p=0.97 |
| Alcohol use | 0.8 (0.4-1.7) **p=0.62** | 1.4 (0.8-2.6) p=0.26 | 2.2 (1.1-4.5) **p=0.03** | 1.8 (0.6-5.0) p=0.26 |
| Self-reported DM | 17.3 (2.5-118.3) **p=0.003** | 7.3 (2.3-22.9) **p=0.0006** | 29.4 (1.7-515.0) **p=0.02** | – |
| Physical Inactivity | – | 1.5 (0.9-2.7) p=0.13 | 1.5 (0.8-3.1) p=0.21 | 1.5 (0.5-4.4) p=0.41 |
| Male | 1.4 (0.7-2.7) p=0.29 | 1.5 (0.9-2.7) p=0.15 | 1.4 (0.7-2.9) p=0.30 | 2.7 (1.0-8.2) **p=0.05** |
| Overweight/obesity | 2.3 (1.2-4.8) **p=0.02** | – | – | 2.1 (0.8-5.9) p=0.14 |
| Tobacco use | 1.3 (0.5-3.8) p=0.56 | 1.6 (0.7-3.8) p=0.25 | 0.5 (0.2-1.5) p=0.23 | 0.4 (0.1-1.2) p=0.09 |

OR Odds ratio, CI confidence interval. Statistical significance $P \leq 0.05$, shown in bold.

**Table S4:** Associations between Younger Age group (18-39) and risk factors

| | **2019** OR (95%CI) | **2021** OR (95%CI) | **2022** OR (95%CI) | **2023** OR (95%CI) |
|---|---|---|---|---|
| Newly identified HT at screening | 0.2 (0.1-0.3) p=0.10 | 0.3 (0.2-0.5) p-value: 0.02 | 0.2 (0.1-0.2) **p-<0.0001** | 0.2 (0.1-0.3) p=0.67 |
| Uncontrolled HT | 0.1 (0.1- 0,2) **p-<0.0001** | 0.1 (0.02-0.1) **p=0.01** | 0.03 (0.01-0.08) **p-<0.0001** | 0.04 (0.02-0.11) **p-<0.0001** |
| Overweight/Obesity | 8.2 (6.4-10.4) **p-<0.0001** | | | 2.5 (2.0-3.2) **p-<0.0001** |
| Self-reported DM | 0.07 (0.03-0.15) p=0.24 | 0.2 (0.1-0.3) p=0.006 | 0.04 (0.02-0.10) **p-<0.0001** | 0.07 (0.03-0.14) p=0.36 |
| Alcohol Use | 3.1 (2.5-4.0) p=0.28 | 4.2 (3.3-5.3) p=0.05 | 4.0 (3.3-4.8) p=0.388 | 2.7 (2.1-3.4) p=0.26 |
| Physical Inactivity | | 4.2 (3.3-5.3) p-value: 0.23 | 8.2 (6.7-9.9) p=1 | 3.4 (2.7-4.2) p=0.0004 |
| Tobacco Use | 0.5 (0.4-0.7) p=0.43 | 0.5 (0.4-0.7) p=0.25 | 1.1 (0.8-1.3) p=0.28 | 2.4 (1.9-3.1) p=0.13 |

OR Odds ratio, CI confidence interval. Statistical significance $P \leq 0.05$, shown in bold.