**Supplemental Material**

**Supplementary Table 1:** Formulas used for the calculation of standard deviation (SD), weighted SD (wSD), coefficient of variation (CV) and average real variability (ARV).

|  |  |  |
| --- | --- | --- |
| **Parameter** | **Formula** | **Details** |
| standard deviation (SD) | $$SD=\sqrt{\frac{1}{N-1}\sum\_{k=1}^{N}(BP\_{k+1}- \overbar{BP})^{2}}$$ | N, the number of valid BP measurements, $\overbar{BP}$, average of ABPM readings |
| weighted SD (wSD) | $$wSD=\frac{\left(daytime SD x daytime hrs\right) +(nighttime SD x nighttime hrs)}{24hour period}$$ | the average of daytime and nighttime SD of BP, each weighted for the duration of the day- and nighttime periods |
| coefficient of variation (CV) | $$CV=\frac{SD}{mean BP}×100$$ | the ratio of the SD to the mean BP |
| average real variability (ARV) | $$ARV=\frac{1}{N-1}\sum\_{k=1}^{N-1}|BP\_{k+1}- BP\_{k}|$$ | the average of the absolute differences between consecutive BP measurementsN, number of valid BP measurements, BPk, BP at measurement number k |

Abbreviations: ABPM: ambulatory blood pressure monitoring; ARV: average real variability; BP: blood pressure; CV: coefficient of variation; DM: diabetes mellitus; SD: standard deviation; wSD: weighted SD

**Supplementary Table 2:** Blood pressure variability during the 24-hour period in the two study groups across chronic kidney disease stages

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Parameter | Group | CKDStage 2 | p | CKDStage 3a | p | CKDStage 3b | p | CKDStage 4 | p |
| N | DM | 12 | - | 12 | - | 12 | - | 12 | - |
| Non-DM | 12 | 12 | 12 | 12 |
| 24-hour SBP SD (mmHg) | DM | 13.8±4.6 | 0.986 | 15.9±3.9 | 0.186 | 16.3±4.5 | **0.003** | 15.8±4.4 | 0.430 |
| Non-DM | 13.7±3.9 | 13.9±3.3 | 11.4±2.6 | 14.5±2.9 |
| 24-hour SBP wSD (mmHg) | DM | 13.1±4.0 | 0.714 | 14.9±3.8 | 0.219 | 15.4±4.5 | **0.004** | 14.2±4.2 | 0.757 |
| Non-DM | 12.5±3.5 | 13.1±3.3 | 10.8±2.3 | 13.7±3.0 |
| 24-hour SBP CV (%) | DM | 10.4±3.1 | 0.464 | 12.2±2.8 | 0.242 | 12.3±2.7 | **0.003** | 11.6±2.9 | 0.918 |
| Non-DM | 11.2±2.51 | 10.8±2.6 | 9.2±1.6 | 11.7±2.7 |
| 24-hour SBP ARV (mmHg) | DM | 9.9±2.1 | 0.353 | 10.9±1.9 | 0.151 | 12.5±3.2 | **0.001** | 10.5±3.2 | 0.875 |
| Non-DM | 9.1±2.1 | 9.7±2.0 | 8.3±2.1 | 10.7±1.7 |
| 24-hour DBP SD (mmHg) | DM | 10.9±2.7 | 0.673 | 11.1±2.7 | 0.109 | 10.6±2.3 | 0.090 | 11.5±2.0 | 0.137 |
| Non-DM | 10.4±2.9 | 9.5±2.2 | 9.2±1.8 | 10.2±2.2 |
| 24-hour DBP wSD (mmHg) | DM | 10.2±2.6 | 0.386 | 10.6±2.9 | 0.125 | 10.07±2.42 | 0.060 | 10.4±2.4 | 0.359 |
| Non-DM | 9.3±2.4 | 9.0±2.0 | 8.4±1.5 | 9.5±2.1 |
| 24-hour DBP CV (%) | DM | 14.0±2.8 | 0.802 | 15.4±3.5 | **0.046** | 14.8±3.6 | **0.035** | 14.8±2.3 | 0.543 |
| Non-DM | 13.7±3.3 | 12.6±2.9 | 12.2±1.9 | 14.1±3.4 |
| 24-hour DBP ARV (mmHg) | DM | 8.3±2.2 | 0.095 | 8.5±2.2 | 0.125 | 8.2±2.3 | 0.077 | 8.0±2.0 | 0.361 |
| Non-DM | 7.0±1.2 | 7.4±1.4 | 6.7±1.6 | 7.4±1.2 |

Abbreviations: ARV: average real variability; CV: coefficient of variation; DM: diabetes mellitus; SD: standard deviation; wSD: weighted SD

**Supplementary Table 3.** Dipping patterns based on the 24-hour SBP levels in the two study groups and across chronic kidney disease stages.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Group** | **Dippers (n, %)** | **Non- Dippers (n, %)** | **Reverse Dippers (n, %)** | **P** |
| **Total** | **DM** | 11 (22.9%) | 24 (50.0%) | 13 (27.1%) | 0.812 |
| **Non-DM** | 9 (18.8%) | 27 (56.3%) | 12 (25.0%) |
| **CKD Stage 2** | **DM** | 1 (8.3%) | 7 (58.3%) | 4 (33.3%) | 0.513 |
| **Non-DM** | 3 (25.0%) | 5 (41.7%) | 4 (33.3%) |
| **CKD Stage 3a** | **DM** | 2 (16.7%) | 7 (58.3%) | 3 (25.0%) | 0.875 |
| **Non-DM** | 2 (16.7%) | 8 (66.7%) | 2 (16.7%) |
| **CKD Stage 3b** | **DM** | 3 (25.0%) | 6 (50.0%) | 3 (25.0%) | 0.710 |
| **Non-DM** | 2 (16.7%) | 8 (66.7%) | 2 (16.7%) |
| **CKD Stage 4** | **DM** | 5 (41.7%) | 4 (33.3%) | 3 (25.0%) | 0.401 |
| **Non-DM** | 2 (16.7%) | 6 (50.0%) | 4 (33.3%) |

Abbreviations: CKD: Chronic Kidney Disease; DM: diabetes mellitus