

# Supplementary Material

## Day-To-Day Home Blood Pressure Variability and All-Cause Mortality in a Memory Clinic Population

**Supplementary Table 1.** BP values of the total sample.

<b>Variable</b>	<b>Total sample</b>	<b>Alive</b>	<b>Deceased</b>
Day-to-day measurements			
Mean SBP (mmHg)	139.0±16.4	138.1±15.8	142.6±18.9
Mean DBP (mmHg)	78.7±9.3	78.6±9.1	79.3±10.4
VIM SBP	10.2±3.8	10.1±3.6	10.6±4.5
VIM DBP	6.0±2.3	5.8±2.3	6.6±2.44
Morning measurements			
Mean SBP (mmHg)	139.8±17.8	139.1±17.5	143.2±18.8
Mean DBP (mmHg)	79.8±9.9	79.7±9.8	80.4±10.5
VIM SBP	8.0±3.3	7.8±3.1	9.0±4.0
VIM DBP	4.7±2.4	4.6±2.4	5.4±2.6
Evening measurements			
Mean SBP (mmHg)	137.8±17.1	137.3±16.0	139.7±21.1
Mean DBP (mmHg)	77.5±9.7	77.4±9.2	77.8±11.6
VIM SBP	9.6±4.3	9.5±4.1	9.9±5.0
VIM DBP	5.6±2.9	5.6±2.8	5.6±3.3

Blood pressure values of the total sample and stratified by event status (alive/deceased). Results are presented as mean±standard deviation. SBP, systolic blood pressure; DBP, diastolic blood pressure; VIM, variation independent of the mean.

**Supplementary Table 2.** BP values of the total sample, coefficient of variation.

<b>Variable</b>	<b>Total</b>
Day-to-day measurements	
CV SBP (%)	7.3±2.8
CV DBP (%)	7.6±3.0
Morning measurements	
CV SBP (%)	5.7±2.4
CV DBP (%)	5.9±3.1
Evening measurements	
CV SBP (%)	7.0±3.1
CV DBP (%)	7.2±3.8

Blood pressure values of the total sample, coefficient of variation. Results are presented as mean±standard deviation. CV, coefficient of variation; SBP, systolic blood pressure; DBP, diastolic blood pressure; CV, coefficient of variation.

**Supplementary Table 3.** BP values of the total sample stratified by cognitive diagnosis.

<b>Variable</b>	<b>Dementia</b>	<b>MCI</b>	<b>Subjective</b>	<b>Other</b>
Day-to-day measurements				
Mean SBP (mmHg)	141.6±16.8	137.6±15.9	137.6±16.3	136.9±17.7
Mean DBP (mmHg)	78.0±9.7	77.4±9.3	80.8±8.8	81.0±8.2
VIM SBP	10.9±4.0	9.7±3.2	9.7±3.8	11.1±5.0
VIM DBP	6.3±2.5	5.7±2.1	5.9±2.4	5.9±2.9
Morning measurements				
Mean SBP (mmHg)	142.6±18.2	138.0±16.8	138.7±17.6	138.4±20.6
Mean DBP (mmHg)	79.5±9.9	78.2±9.7	81.9±10.1	81.9±9.3
VIM SBP	8.9±3.6	7.5±2.8	7.3±2.8	8.9±4.8
VIM DBP	5.3±2.7	4.2±2.0	4.5±2.0	5.2±3.5
Evening measurements				
Mean SBP (mmHg)	140.2±17.2	135.9±15.8	136.5±17.3	138.3±21.5
Mean DBP (mmHg)	76.7±10.6	76.3±9.2	79.2±8.4	81.0±10.1
VIM SBP	10.0±4.4	9.4±4.0	9.2±4.4	9.6±4.6
VIM DBP	5.8±3.1	5.6±2.8	5.6±3.0	4.4±2.2

Blood pressure values of the total sample stratified by cognitive diagnosis. Results are presented as mean±standard deviation. SBP, systolic blood pressure; DBP, diastolic blood pressure; VIM, variation independent of the mean.

**Supplementary Table 4.** The association between CV and all-cause mortality.

Predictor	Unadjusted		Model 1		Model 2		Model 3	
	HR (95%CI)	<i>p</i>	HR (95%CI)	<i>p</i>	HR (95%CI)*	<i>p</i>	HR (95%CI)*	<i>p</i>
Day-to-day								
CV SBP	1.05 (0.96-1.15)	0.271	1.01 (0.92-1.11)	0.866	0.98 (0.89-1.08)	0.719	0.98 (0.89-1.09)	0.748
CV DBP	1.07 (0.99-1.16)	0.072	1.05 (0.96-1.14)	0.307	1.03 (0.94-1.13)	0.527	1.03 (0.94-1.13)	0.521
Morning-to-morning								
CV SBP	1.13 (1.02-1.24)	<b>0.018</b>	1.12 (1.00-1.25)	<b>0.053</b>	1.12 (1.00-1.26)	<b>0.047</b>	1.13 (1.01-1.26)	<b>0.038</b>
CV DBP	1.07 (1.00-1.15)	<b>0.043</b>	1.05 (0.98-1.13)	0.175	1.06 (0.98-1.14)	0.138	1.06 (0.98-1.14)	0.137
Evening-to-evening								
CV SBP	1.04 (0.96-1.14)	0.366	1.02 (0.93-1.11)	0.679	1.01 (0.92-1.10)	0.865	1.01 (0.92-1.10)	0.869
CV DBP	1.01 (0.94-1.09)	0.751	1.01 (0.93-1.09)	0.880	1.00 (0.92-1.08)	0.979	1.00 (0.92-1.08)	0.976

Hazard ratios for all-cause mortality for each unit increase in systolic or diastolic CV.

Model 1: adjusted for age and sex

Model 2: model 1 + vascular score and use of antihypertensive treatment

Model 3: model 2 + mean systolic blood pressure (for models with VIM SBP as the outcome) or mean diastolic blood pressure (for models with VIM DBP as the outcome)

\* Pooled hazard ratios after multiple imputation.

BPV, blood pressure variability; CV, coefficient of variation; HR, hazard ratio; SBP, systolic blood pressure; DBP, diastolic blood pressure.

**Supplementary Table 5.** The association between VIM and all-cause mortality, complete-case analysis.

Predictor	Unadjusted HR (95%CI)	<i>p</i>	Model 1 HR (95%CI)	<i>p</i>	Model 2 HR (95%CI)*	<i>p</i>	Model 3 HR (95%CI)*	<i>p</i>
Day-to-day								
VIM SBP	1.03 (0.96-1.10)	0.389	1.01 (0.94-1.08)	0.881	1.00 (0.93-1.08)	0.995	1.00 (0.93-1.08)	0.998
VIM DBP	1.10 (0.99-1.21)	0.071	1.06 (0.95-1.18)	0.304	1.04 (0.93-1.17)	0.470	1.04 (0.93-1.17)	0.466
Morning-to-morning								
VIM SBP	1.09 (1.01-1.17)	<b>0.022</b>	1.09 (1.00-1.17)	<b>0.044</b>	1.10 (1.02-1.20)	<b>0.021</b>	1.10 (1.01-1.20)	<b>0.022</b>
VIM DBP	1.10 (1.00-1.20)	0.041	1.07 (0.97-1.17)	0.167	1.07 (0.97-1.19)	0.154	1.08 (0.97-1.19)	0.154
Evening-to-evening								
VIM SBP	1.03 (0.97-1.09)	0.386	1.02 (0.95-1.08)	0.625	1.01 (0.94-1.08)	0.830	1.01 (0.94-1.07)	0.860
VIM DBP	1.02 (0.92-1.12)	0.761	1.01 (0.91-1.11)	0.900	0.97 (0.87-1.09)	0.628	0.97 (0.87-1.09)	0.639

Hazard ratios for all-cause mortality for each unit increase in systolic or diastolic VIM, complete case analysis.

Model 1: adjusted for age and sex

Model 2: model 1 + vascular score and use of antihypertensive treatment

Model 3: model 2 + mean systolic blood pressure (for models with VIM SBP as the outcome) or mean diastolic blood pressure (for models with VIM DBP as the outcome)

BPV, blood pressure variability; VIM, variation independent of the mean; HR, hazard ratio; SBP, systolic blood pressure; DBP, diastolic blood pressure.

**Supplementary Table 6.** The association between evening-to-evening VIM and all-cause mortality after 1, 3, and 5 years follow-up.

Follow-up (y)	Predictor	Unadjusted		Model 1		Model 2	
		HR (95%CI)	<i>p</i>	HR (95%CI)	<i>p</i>	HR (95%CI)	<i>p</i>
1	VIM SBP	1.07 (0.94-1.21)	0.331	1.03 (0.91-1.17)	0.603	1.03 (0.91-1.17)	0.624
	VIM DBP	0.89 (0.69-1.16)	0.390	0.85 (0.64-1.12)	0.240	0.85 (0.65-1.12)	0.240
3	VIM SBP	1.07 (0.99-1.16)	0.095	1.06 (0.98-1.15)	0.147	1.06 (0.98-1.15)	0.165
	VIM DBP	1.05 (0.93-1.19)	0.401	1.05 (0.93-1.18)	0.464	1.05 (0.93-1.18)	0.465
5	VIM SBP	1.04 (0.98-1.11)	0.196	1.04 (0.97-1.10)	0.273	1.04 (0.97-1.10)	0.275
	VIM DBP	1.03 (0.94-1.14)	0.525	1.03 (0.93-1.14)	0.589	1.03 (0.93-1.14)	0.583

Hazard ratios for all-cause mortality for each unit increase in systolic or diastolic evening-to-evening VIM after 1, 3, and 5 years follow-up.

Model 1: adjusted for age and sex

Model 2: model 1 + mean systolic blood pressure (for models with VIM SBP as the outcome) or mean diastolic blood pressure (for models with VIM DBP as the outcome)

BPV, blood pressure variability; VIM, variation independent of the mean; HR, hazard ratio; SBP, systolic blood pressure; DBP, diastolic blood pressure.