



Data Supplement

Prevalence, Treatment and Control Rates of Conventional and Ambulatory Hypertension across 10 Populations in 3 Continents

Running Title: Prevalence, Treatment and Control of Hypertension

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Table S1. Terminal Digit Preference of the Conventional Blood Pressure Measurements by Cohort.

IDACO Cohorts	N	Terminal digit									
		0	1	2	3	4	5	6	7	8	9
Copenhagen, Denmark	8568	26.4		17.6		19.6		18.7		17.6	
Nooderkempen, Belgium	3770	28.3		18.6		18.5		16.4		18.2	
Montevideo, Uruguay	3848	10.1	12.1	11.5	10.3	9.2	9.7	9.2	8.6	9.4	10.1
JingNing, China	756	14.2		20.4		20.8		20.5		24.2	
EPOGH	1964	24.0	0.8	18.1	0.8	15.9	1.1	18.0	0.8	19.9	0.5

Values are total number of BP readings (N) and percentage of BP readings ending in the corresponding digit.

Terminal digit preference could not be assessed in the Ohasama and Maracaibo cohorts because BP was recorded as the mean of respectively two and three consecutive measurements.

Table S2. Number of 24-h Ambulatory Blood Pressure Readings in the IDACO Cohorts.

IDACO Cohorts	N° of Subjects	Programmed Interval between Readings (minutes)		N° of Programmed Readings	N° of Recorded Readings				
		Daytime	Night-time		Median	P5	P25	P75	P95
Copenhagen, Denmark	2142	15	30	80	80	68	78	81	83
Ohasama, Japan	1275	30	30	48	45	36	42	48	50
Nooderkempen, Belgium	943	20	40	55	53	38	42	56	58
Montevideo, Uruguay	962	20	40	60	37	29	34	39	42
JingNing, China	189	20	45	65	56	53	55	56	57
EPOGH	491	15	30	76	74	59	70	77	83
Maracaibo, Venezuela	544	15	30	82	67	52	61	71	77

Table S3. Characteristics of the Participants by Cohort (Starts)

	Copenhagen1 (n=2142)	Ohasama2 (n=1275)	Noorderkempen3 (n=943)	Montevideo4 (n=962)	JingNing5 (n=189)
Number with characteristics (%)					
Women	1026 (47.9)	839 (65.8)	468 (49.6)	522 (54.3)	103 (54.5)
Current smoking	930 (43.5)	233 (18.3)	257 (27.5)	193 (20.1)	61 (32.3)
Drinking alcohol	1840 (86.4)	255 (22.1)	226 (24.4)	342 (35.6)	93 (49.2)
Diabetes	73 (3.4)	223 (17.5)	37 (3.9)	75 (7.8)	0 (0.0)
Obesity	330 (15.4)	32 (2.5)	152 (16.1)	245 (25.5)	4 (2.1)
Dyslipidemia	1014 (47.3)	100 (7.8)	335 (35.5)	358 (37.2)	19 (10.0)
History of cardiovascular disease	128 (6.0)	66 (5.2)	108 (11.4)	81 (8.4)	8 (4.2)
Mean characteristic (SD)					
Age, years	56.4 (10.3)	61.0 (9.2)	55.1 (10.5)	57.3 (10.3)	56.8 (11.0)
Body mass index, kg/m ²	26.0 (4.1)	23.5 (3.0)	26.5 (4.3)	27.5 (4.5)	22.5 (3.0)
Total serum cholesterol, mmol/L	6.21 (1.10)	5.01 (0.88)	5.85 (1.11)	5.93 (1.11)	4.96 (1.04)
Blood pressure					
Conventional systolic, mm Hg	131.2 (19.2)	130.8 (18.3)	129.6 (18.2)	134.6 (23.9)	139.4 (24.5)
Conventional diastolic, mm Hg	83.3 (10.7)	74.1 (11.3)	78.4 (10.2)	83.4 (12.6)	82.3 (11.5)
24-h systolic, mm Hg	128.6 (12.8)	122.8 (13.0)	119.7 (11.8)	122.9 (15.1)	126.9 (16.2)
24-h diastolic, mm Hg	75.1 (8.5)	71.9 (7.7)	72.2 (7.5)	76.9 (9.1)	80.2 (9.1)
Daytime systolic, mm Hg	136.4 (13.6)	128.7 (14.2)	125.6 (12.3)	127.6 (16.0)	131.1 (16.7)
Daytime diastolic, mm Hg	80.5 (9.2)	76.1 (8.7)	77.7 (8.3)	85.1 (10.3)	84.0 (9.4)
Nighttime systolic, mm Hg	115.8 (14.0)	111.3 (14.5)	109.4 (12.9)	112.6 (16.0)	118.4 (17.5)
Nighttime diastolic, mm Hg	65.7 (9.1)	63.5 (8.2)	63.2 (8.3)	67.4 (9.8)	73.7 (10.2)

Data are mean (SD) or number of subjects (%). Diabetes mellitus is the use of antidiabetic drugs, a fasting glucose of at least 7.0 mmol/L, a random glucose of at least 11.1 mmol/L, a self-reported diagnosis, or diabetes documented in practice or hospital records. Obesity is a body mass index > 30 kg/m². Dyslipidemia is a total cholesterol ≥6.2 mmol/L.

Table S3. Characteristics of the Participants by Cohort (Continues)

	Novosibirsk6 (n=115)	Pilsen7 (n=76)	Padua7 (n=161)	Krakow7 (n=139)	Maracaibo8 (n=544)
Number with characteristics (%)					
Women	50 (43.4)	34 (44.7)	92 (57.1)	83 (59.7)	174 (32.0)
Current smoking	25 (20.9)	19 (25.0)	30 (18.6)	45 (32.4)	87 (16.0)
Drinking alcohol	100 (87.0)	49 (64.5)	94 (58.4)	44 (31.6)	175 (32.2)
Diabetes	6 (5.2)	8 (10.5)	11 (6.8)	13 (9.4)	131 (24.2)
Obesity	37 (32.2)	23 (30.3)	30 (18.6)	48 (34.5)	150 (27.6)
Dyslipidaemia	31 (27.0)	25 (32.9)	58 (36.0)	36 (25.9)	108 (19.8)
History of cardiovascular disease	33 (28.7)	6 (7.9)	18 (11.2)	27 (19.4)	64 (11.9)
Mean characteristic (SD)					
Age, years	54.1 (7.1)	51.1 (5.1)	54.3 (4.0)	50.5 (4.9)	66.4 (6.5)
Body mass index, kg/m ²	28.0 (4.9)	28.0 (4.2)	27.1 (4.0)	28.7 (4.8)	27.3 (5.3)
Total serum cholesterol, mmol/L	5.67 (1.14)	5.83 (1.12)	5.72 (1.08)	5.61 (1.08)	5.49 (1.34)
Blood pressure					
Conventional systolic, mm Hg	134.5 (19.3)	130.8 (20.2)	130.6 (17.7)	134.9 (15.1)	169.5 (31.9)
Conventional diastolic, mm Hg	83.7 (12.0)	81.5 (11.4)	82.0 (10.2)	86.9 (9.8)	87.0 (15.0)
24-h systolic, mm Hg	125.4 (14.2)	120.2 (14.2)	126.4 (11.6)	123.9 (11.8)	131.4 (16.0)
24-h diastolic, mm Hg	77.5 (9.2)	75.4 (8.5)	77.1 (6.9)	76.2 (7.9)	75.6 (9.8)
Daytime systolic, mm Hg	130.6 (14.5)	125.6 (15.1)	133.1 (12.3)	130.3 (12.4)	134.2 (16.7)
Daytime diastolic, mm Hg	82.3 (9.9)	79.8 (8.8)	81.5 (7.2)	81.7 (8.2)	77.7 (10.4)
Nighttime systolic, mm Hg	115.3 (15.2)	109.4 (14.4)	113.4 (13.8)	112.3 (12.4)	125.3 (18.4)
Nighttime diastolic, mm Hg	68.2 (9.4)	66.7 (9.4)	67.6 (8.6)	66.3 (9.2)	70.2 (11.3)

Data are mean (SD) or number of subjects (%). Diabetes mellitus is the use of antidiabetic drugs, a fasting glucose of at least 7.0 mmol/L, a random glucose of at least 11.1 mmol/L, a self-reported diagnosis, or diabetes documented in practice or hospital records. Obesity is a body mass index > 30 kg/m². Dyslipidemia is a total cholesterol ≥6.2 mmol/L.

Table S4.

Prevalence of Conventional Hypertension by Cohort, Sex and Age.

Cohort	Men			Women			40-59 years			60-79 years		
	N	Cases	Crude rate	N	Cases	Crude rate	N	Cases	Crude rate	N	Cases	Crude rate
Copenhagen	1116	520	46.6	1026	432	42.1	1067	316	29.6	1075	636	59.2
Ohasama	436	236	54.1	839	355	42.3	572	171	29.9	703	420	59.7
Noorderkempen	475	186	39.2	468	191	40.8	641	189	29.5	302	188	62.3
Montevideo	440	242	55.0	522	246	47.1	578	237	41.0	384	251	65.4
JingNing	86	38	44.2	103	56	54.4	115	50	43.5	74	44	59.5
EPOGH	209	103	49.3	282	149	52.8	456	232	50.9	35	20	57.1
Maracaibo	174	157	90.2	370	315	85.1	98	79	80.6	446	393	88.1
ALL	2936	1482	50.5	3610	1744	46.7	3527	1274	36.1	3019	1952	64.7

Conventional hypertension was a conventional BP \geq 140 mmHg systolic or \geq 90 mmHg diastolic or use of antihypertensive drugs.

Table S5.

Prevalence of Ambulatory Hypertension by Cohort, Sex and Age.

Cohort	Men			Women			- 40-59 years			60-79 years		
	N	Cases	Crude rate	N	Cases	Crude rate	N	Cases	Crude rate	N	Cases	Crude rate
Copenhagen	1116	609	54.6	1026	436	42.5	1067	417	39.1	1075	628	58.4
Ohasama	436	243	55.7	839	366	43.6	572	175	30.6	703	434	61.7
Noorderkempen	475	176	37.1	468	156	33.3	641	170	26.5	302	162	53.6
Montevideo	440	238	54.1	522	233	44.6	578	244	42.2	384	227	59.1
JingNing	86	54	62.8	103	57	55.3	115	63	54.8	74	48	64.9
EPOGH	209	121	57.9	282	138	48.9	456	238	52.2	35	21	60.0
Maracaibo	174	121	69.5	370	241	65.1	98	58	59.2	446	304	68.2
ALL	2936	1482	50.5	3610	1744	46.7	3527	1365	38.7	3019	1824	60.4

Ambulatory hypertension was a 24-hour BP \geq 130 mmHg systolic or \geq 80 mmHg diastolic or use of antihypertensive drugs.

Table S6.

Crude and Sex and Age Standardized Prevalence of Daytime and Nighttime Ambulatory Hypertension by Cohort in 6546 Participants Aged 40-80 Years.

Cohort	N	Daytime Hypertension			Nighttime Hypertension		
		Cases	Crude rate	Standardized Rate*	Cases	Crude rate	Standardized Rate*
Copenhagen	2142	1230	57.4 (55.3-59.5)	56.0 (54.8-57.6)	986	46.0 (43.9-48.1)	44.8 (43.7-46.5)
Ohasama	1275	645	50.6 (47.8-53.3)	50.1 (47.3-53.3)	615	48.2 (45.5-51.0)	47.5 (44.8-50.7)
Noorderkempen	943	364	38.6 (35.5-41.7)	41.8 (38.6-45.5)	345	36.6 (33.5-39.7)	40.3 (37.2-43.9)
Montevideo	962	492	51.1 (48.0-54.3)	51.8 (48.7-55.3)	496	51.6 (48.4-54.7)	52.7 (49.7-56.2)
JingNing	189	105	55.6 (48.5-62.6)	56.4 (49.7-63.9)	130	68.8 (62.2-75.4)	69.7 (63.4-76.6)
EPOGH	491	272	55.4 (51.0-59.8)	56.3 (48.3-65.1)	256	52.1 (47.7-56.6)	57.6 (50.1-66.0)
Maracaibo	544	334	61.4 (57.3-65.5)	59.2 (53.7-65.3)	399	73.3 (69.6-77.1)	70.0 (64.7-75.9)
ALL	6546	3442	52.6 (51.4-53.8)	-	3227	49.3 (48.1-50.5)	-

Daytime hypertension was a daytime ambulatory BP \geq 135 mmHg systolic or \geq 85 mmHg diastolic or use of antihypertensive drugs. Nighttime hypertension was a nighttime ambulatory BP \geq 120 mmHg systolic or \geq 70 mmHg diastolic or use of antihypertensive drugs.

*Rates were standardized to the distribution of sex and age in the whole study population (55.2% women, 53.9% between 40 and 60 years).

Table S7.

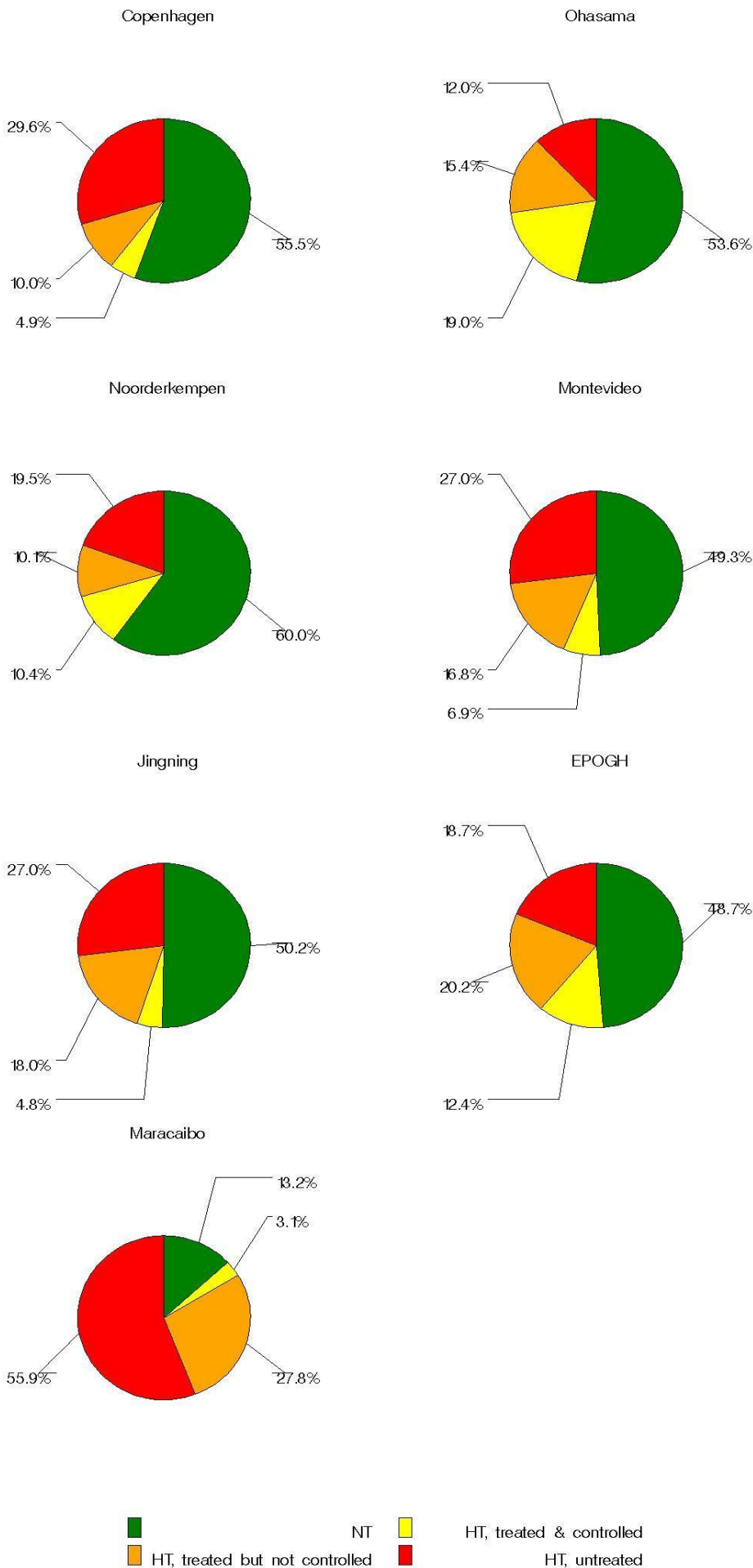
Treatment and Control Rates of Daytime and Nighttime Ambulatory Hypertension by Cohort.

Cohort	Daytime Hypertension				Nighttime Hypertension			
	All HT	Treated and Controlled	Treated and Not Controlled	Not Treated	All HT	Treated and Controlled	Treated and Not Controlled	Not Treated
Copenhagen	1230	103 (8.4)	216 (17.5)	911 (74.1)	986	127 (12.9)	192 (19.5)	667 (67.6)
Ohasama	645	253 (39.2)	185 (28.7)	207 (32.1)	615	247 (40.2)	191 (31.1)	177 (28.8)
Noorderkempen	364	120 (33.0)	73 (20.0)	171 (47.0)	345	112 (32.4)	81 (23.5)	152 (44.1)
Montevideo	492	80 (16.2)	148 (30.1)	264 (53.7)	496	81 (16.3)	147 (29.6)	268 (54.0)
JingNing	105	10 (9.5)	33 (31.4)	62 (59.1)	130	8 (6.2)	35 (26.9)	87 (66.9)
EPOGH	272	73 (26.8)	87 (32.0)	112 (41.2)	256	65 (25.4)	95 (37.1)	96 (37.5)
Maracaibo	334	77 (23.0)	91 (27.3)	166 (49.7)	399	53 (13.3)	115 (28.8)	231 (57.9)
ALL	3442	71.6 (20.8)	833 (24.2)	1893 (55.0)	3227	693 (21.5)	856 (26.5)	1678 (52.0)

Values are numbers (percentage). Treatment and control rates were assessed among those with hypertension. Daytime hypertension was a daytime ambulatory BP \geq 135 mmHg systolic or a \geq 85 mmHg diastolic or use of antihypertensive drugs. Nighttime hypertension was a nighttime ambulatory BP \geq 120 mmHg systolic or \geq 70 mmHg diastolic or use of antihypertensive drugs.

HT, hypertension

Figure S1. Prevalence rates of conventional normotension (green) and hypertension in the IDACO cohorts. Conventional hypertension is broken down by treated and controlled hypertension (yellow), treated and uncontrolled hypertension (orange) and untreated hypertension (red).



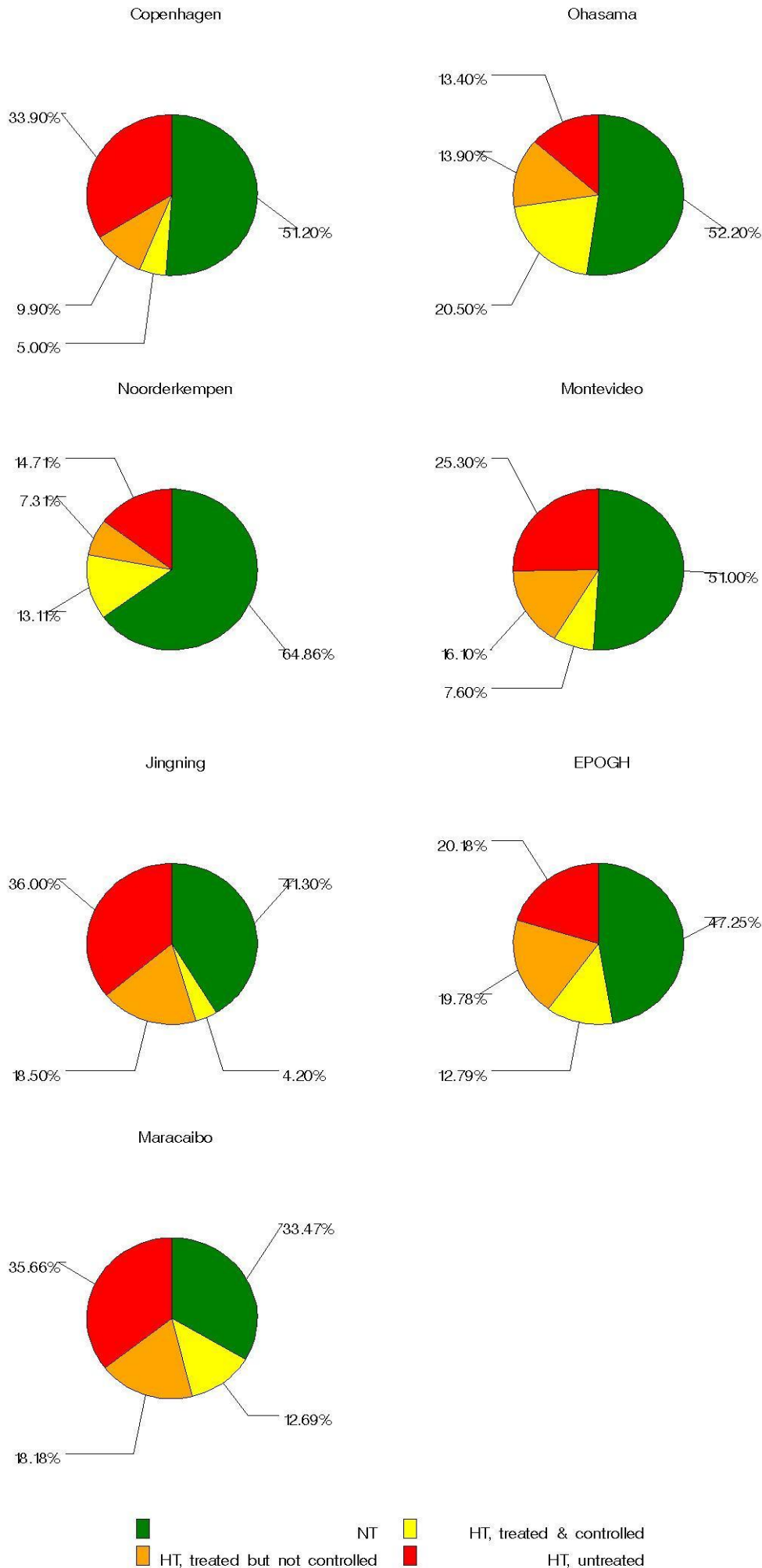


Figure S2. Prevalence rates of 24-hour ambulatory normotension (green) and hypertension in the IDACO cohorts. Ambulatory hypertension is broken down by treated and controlled hypertension (yellow), treated and uncontrolled hypertension (orange) and untreated hypertension (red).