

High Baseline Prevalence and Suboptimal Control of Hypertension in the REPRIEVE Trial



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BACKGROUND

- Hypertension is common in people with HIV (PWH)¹, and a major contributor to cardiovascular disease²
- Study Objective: Secondary analysis to evaluate baseline hypertension prevalence and control in REPRIEVE, a population with low-to-moderate cardiovascular disease risk and controlled HIV

METHODS

- Baseline hypertension prevalence was a composite of: (1) pre-existing hypertension regardless of antihypertensive medication use; or (2) baseline systolic ≥ 140 mmHg or diastolic ≥ 90 mmHg without a prior hypertension diagnosis
- Estimated prevalence of composite hypertension outcome overall and by demographic and clinical characteristics with 95% Wald confidence intervals (CIs)
- Uncontrolled hypertension defined as SBP ≥ 140 and/or DBP ≥ 90 mmHg among those with pre-existing hypertension
- Differences in control rates explored using global thresholds³ vs American Heart Association (AHA)⁴ thresholds (Table 1)

RESULTS

- 7,769 participants enrolled from 5 global burden of disease (GBD) regions: median age 50 years (IQR 45, 55) and 2,419 (31%) women; 88% virologically suppressed (<400 copies/mL)
- Prevalence of baseline hypertension: 36% (95%CI 35, 37);** varied by GBD region; more common in women (Figure 1)
 - 1,911 participants (69%) had pre-existing hypertension
 - 1,578 were on antihypertensive medications (including 29 started on antihypertensive medications at baseline)
 - 333 not on medications
 - 869 (31%) previously undiagnosed
- Hypertension more common with traditional risk factors:
 - Older age (50+ yrs), Black or African American race in high-income region, higher BMI, reduced renal function (GFR < 90 mL/min) (Figure 1)
- Among 1,882 participants with pre-existing hypertension, **39% (95%CI 37, 41) were uncontrolled**
 - Varied by region with control most common in high income countries (Figure 2)
- Using AHA thresholds, uncontrolled blood pressure very common: 77% with stage 1 or higher with AHA versus 39% stage 1 or higher with global thresholds (Table 1)

Despite low-to-moderate cardiovascular disease risk, one in three PWH in REPRIEVE had hypertension at baseline; among those with a pre-existing diagnosis, hypertension was frequently suboptimally controlled.

Figure 1: Prevalence of the composite baseline hypertension outcome

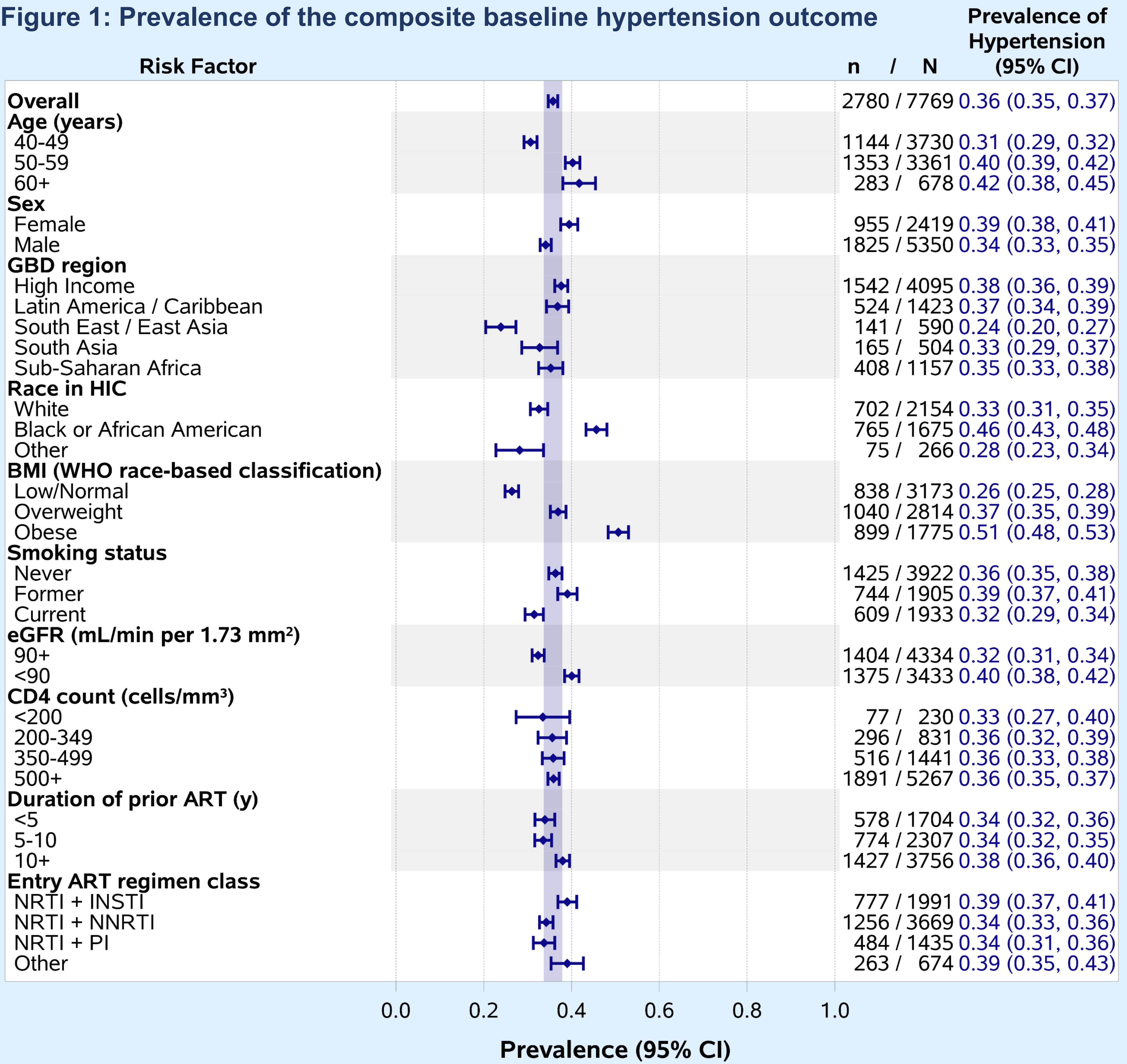
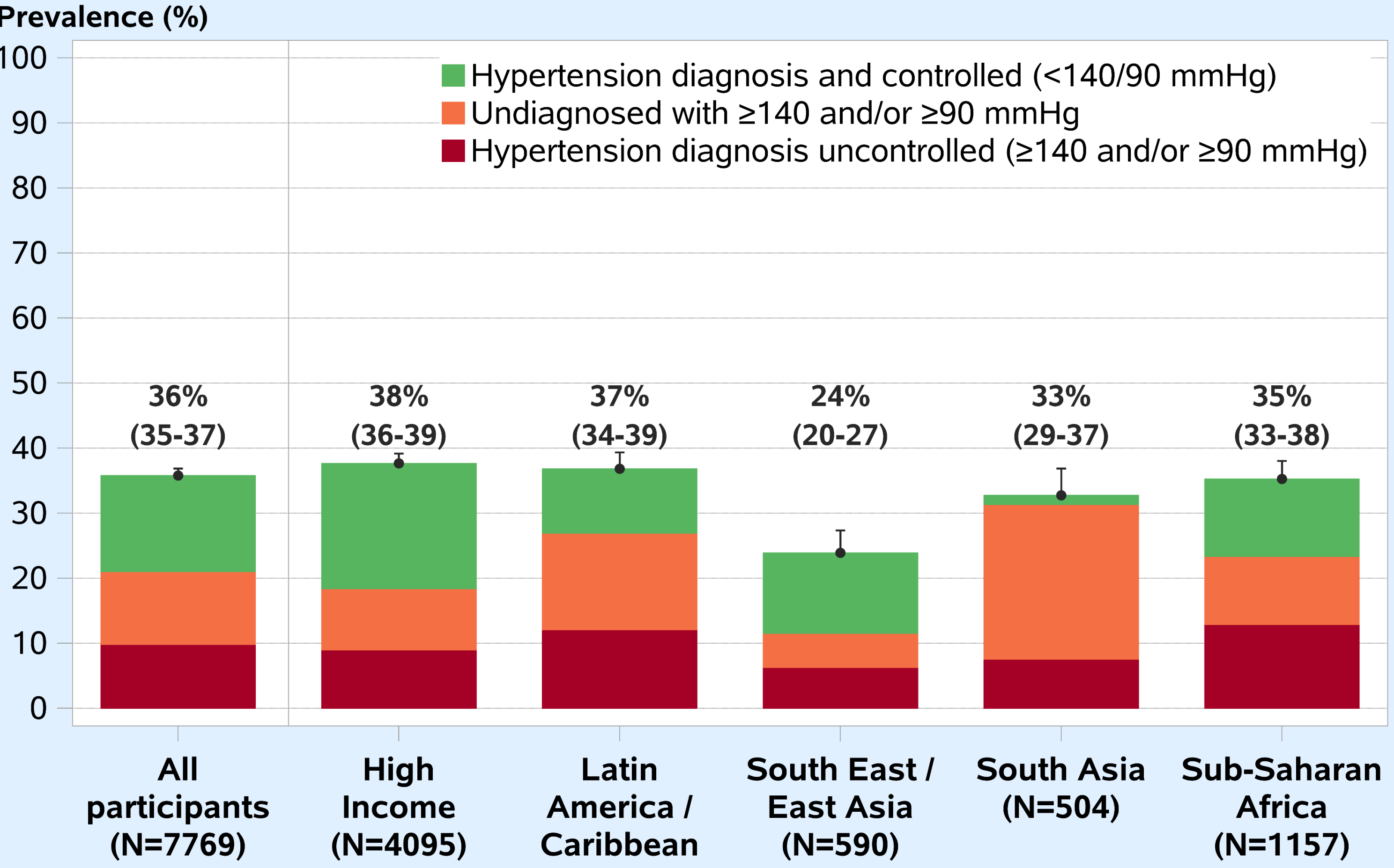


Figure 2: Hypertension prevalence and control* by region



Numeric results give estimated prevalence with 95% confidence interval

*Control among N=1,882 with pre-existing hypertension

Table 1: Stages of hypertension by global versus AHA thresholds among those with a pre-existing diagnosis (N=1,882*)

Control Definition	Baseline Blood Pressure Status	N	% (95% CI)
Single value at 140/90 mmHg	Controlled (<140/90)	1145	61% (59%, 63%)
	Uncontrolled ($\geq 140/90$)	737	39% (37%, 41%)
Global Thresholds ³	Normal (SBP <130 and DBP <80)	426	23% (21%, 25%)
	Elevated (SBP 130-139 or DBP 80-89)	719	38% (36%, 40%)
	Stage 1 (SBP 140-159 or DBP 90-99)	571	30% (28%, 32%)
	Stage 2 (SBP 160-179 or DBP 100-109)	134	7% (6%, 8%)
	Stage 3 (SBP ≥ 180 or DBP ≥ 110)	32	2% (1%, 2%)
AHA Thresholds ⁴	Normal (SBP <120 and DBP <80)	280	15% (13%, 16%)
	Elevated (SBP 120-129 and DBP 80-89)	146	8% (7%, 9%)
	Stage 1 (SBP 130-139 or DBP 80-89)	719	38% (36%, 40%)
	Stage 2 (SBP 140-179 or DBP 90-119)	722	38% (36%, 41%)
	Hypertensive crisis (SBP ≥ 180 or DBP ≥ 120)	15	1% (0%, 1%)

*Excludes 29 people started on medications at study baseline

CONCLUSIONS

- Despite low-to-moderate traditional cardiovascular disease risk, one in three REPRIEVE participants had hypertension; female sex and traditional risk factors more common among those with hypertension
- Suboptimal control common, particularly with AHA thresholds
- Findings highlight the need for improved screening and treatment of hypertension in PWH

REFERENCES

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