

Fasting during Ramadan results in a *reduction* of both systolic and diastolic *blood pressure (BP)*. There was no evidence of sustained reduction after one month of fasting. This indicates a *short-term impact* of fasting on *hypertension* without sustained benefits.

BACKGROUND

- Every year, hundreds of millions of Muslims globally refrain from eating and drinking in the daytime for one month during Ramadan
- Lifestyle changes during Ramadan, including periodic diet deprivation, cause many physiological and metabolic changes

OBJECTIVE

Assess the effect of fasting during Ramadan on blood pressure (BP)

METHODOLOGY

- **Longitudinal study** on adult employees of a cardiac hospital in Bangladesh who fast at least 20 days during Ramadan
- Baseline assessment of 416 participants; 85 participants with completed all 7 visits
- Diagnosed cases of chronic kidney disease and cardiovascular diseases other than hypertension were excluded
- **Baseline assessment** just before Ramadan and **6 follow-ups** during and one month after Ramadan at intervals of 7-10 days
- Body water content was measured using a body composition analyzer at each visit and adjusted for blood pressure changes
- **Analysis:** Assessment of changes in systolic and diastolic BP using repeated measures ANOVA, with 95% CI for the means

RESULTS

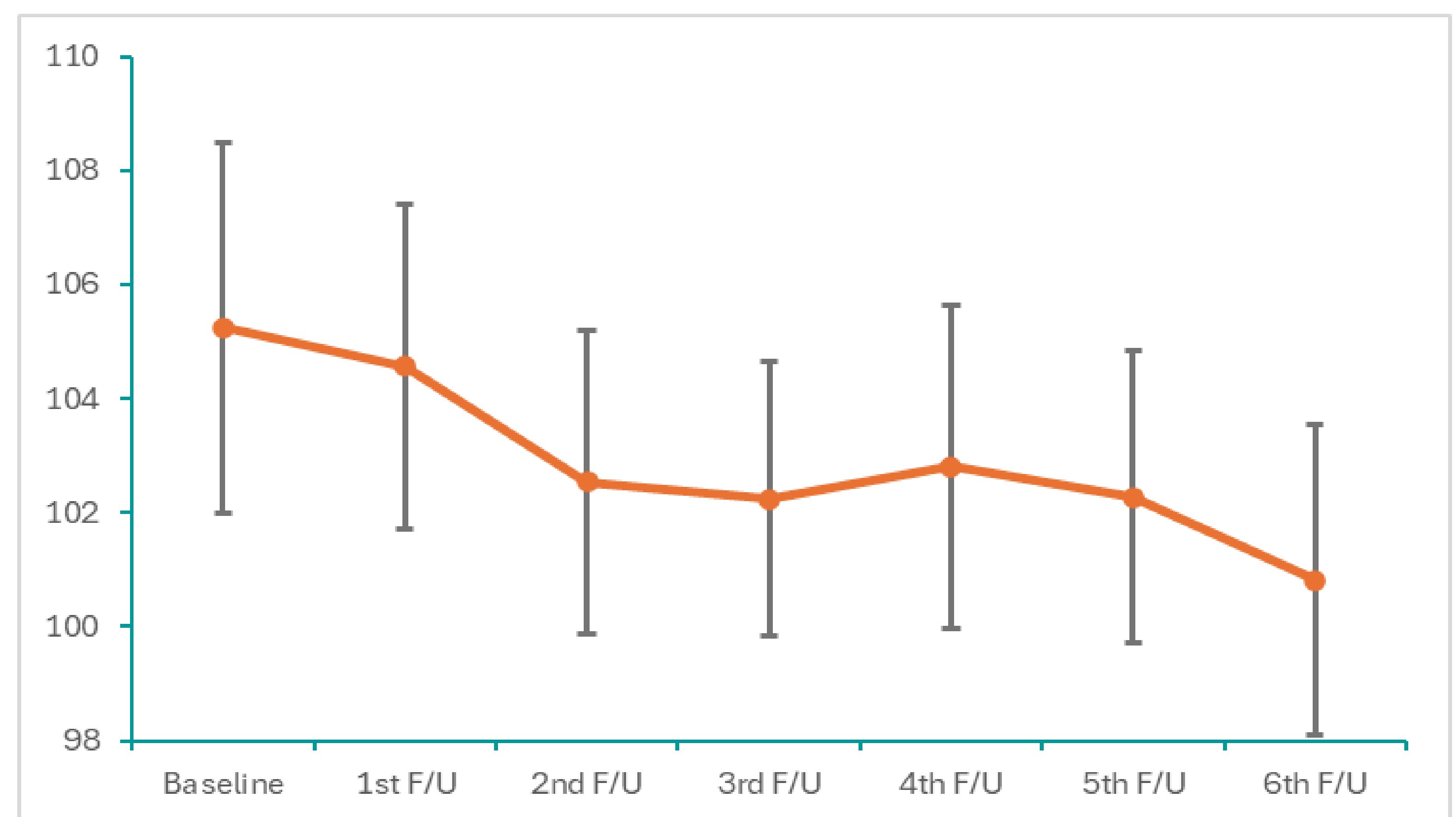
Participant characteristics at baseline and follow-up

	Total, n (%)
# of participants assessed at baseline	416
# of participants completed all 7 visits	85 (20.4%)
Age (years), mean±SD	32.4 ± 8.7
# of women	283 (68%)
Pre-Ramadan systolic BP	105.2±1.6
Pre-Ramadan diastolic BP	70.3 ± 1
One-month post-Ramadan systolic BP	100.8 ± 1.4
One-month post Ramadan diastolic BP	69.3 ± 0.9

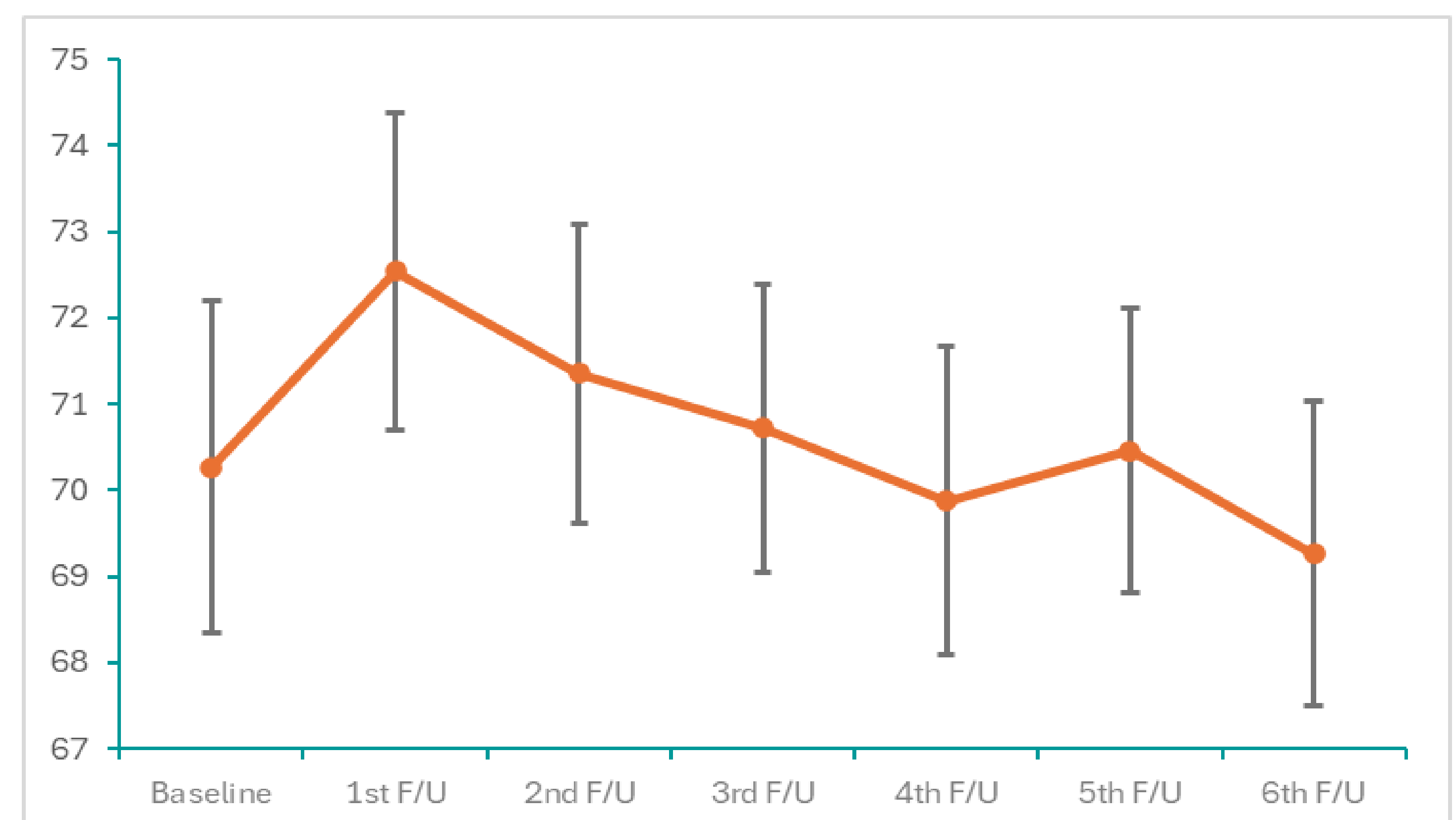
RESULTS cont.

- Mean systolic and diastolic BP significantly differed across the visits in unadjusted model
- After adjusting age and sex, the difference in mean DBPs was significant

Changes in systolic BP (unadjusted)



Changes in diastolic BP (unadjusted)



- Pairwise difference between baseline and last visit's mean systolic BP (4.4 mmHg, 95% CI: 1.1, 7.8) was significant, but of diastolic BP (1.0 mmHg, 95% CI: -1.0, 3.0) was not.

CONCLUSIONS

Fasting during Ramadan results in a temporary reduction in both systolic BP and diastolic BP but that effect does not persist after one month of fasting

There was no conflict of interest or funding to declare