

## **ABSTRACT**

**Background:** The strategies patients use to organize medications (eg, pill dispenser) may be reflected in adherence measured at follow-up. We studied whether medication organization strategies patients use at home are associated with adherence measured using pharmacy-fills, self-report, and pill counts.

**Design:** Secondary analysis of data from a prospective randomized clinical trial

**Setting:** Eleven US safety-net and community primary care clinics

**Patients:** Of 960 enrolled self-identified Non-Hispanic Black and White patients prescribed antihypertensive medications, 731 patients reported pill organization strategies and were included.

**Variable:** Patients were asked if they use any of the following medication organization strategies: finish previous refills first; use a pill dispenser; combine same prescriptions; or combine dissimilar prescriptions.

**Outcomes:** Adherence to antihypertensive medications using pill counts (range 0.0-1.0 percent of days covered), pharmacy-fill (proportion of days covered > 90%), and self-report (adherent/non-adherent).

**Results:** Of 731 participants, 38.3% were men, 51.7% were  $\geq$  age 65, 52.9% self-identified as Black or African American. Of the strategies studied, 51.7% finished previous refills first, 46.5% used a pill dispenser, 38.2% combined same prescriptions and 6.0% combined dissimilar prescriptions. Median (IQR) pill count adherence was 0.65 (0.40-0.87), pharmacy-fill adherence was 75.7%, and self-reported adherence was 63.2%. Those who combined same prescriptions had significantly lower measured pill count adherence than those who did not (0.56 (0.26-0.82)

vs 0.70 (0.46-0.90),  $p < 0.01$ ) with no significant difference in pharmacy-fill (78.1% vs. 74%,  $p = 0.22$ ) or self-reported adherence (63.0% vs. 63.3%,  $p = 0.93$ ).

**Conclusion:** Self-reported medication organization strategies were common. Combining same prescriptions was associated with lower adherence as measured using pill counts but not pharmacy-fills or self-report. Clinicians and researchers should identify the pill organization strategies used by their patients to understand how these strategies may influence measures of patient adherence.

**Key Words:** Hypertension, medication adherence, management strategies, organization strategies, medication management behaviors, chronic disease, pill count, pharmacy-fill, self-reported adherence