Effect of a Low-Literacy Intervention on Self-Efficacy and Medication Adherence

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Medication Non-adherence

- Approximately 50% of patients do not take medications as prescribed

- Medication non-adherence leads to:
  - Higher mortality in patients with acute coronary syndromes (ACS)

Health Literacy & Medication Use

- Limited health literacy is associated with:
  - Poor understanding of medication instructions
  - Greater confusion about medication purpose and dosing
  - Lower adherence to chronic medications
  - Poor disease-related knowledge
  - Poor self-management skills
  - Low self-efficacy

- Self-efficacy is an important predictor of medication adherence

Objective

- To assess the effect of tailored pharmacist counseling and low-literacy adherence aids on self-efficacy and medication adherence after hospitalization for ACS

IMAGE-ACS

- Improving Medication Adherence through Graphically Enhanced Interventions in Acute Coronary Syndromes (IMAGE-ACS)

Study Design

– Randomized controlled trial

Setting, Population

– Grady Memorial Hospital, Atlanta, GA
  - Inner-city population
  - Low health literacy skills

Methods

- Major eligibility criteria:
  - Adults hospitalized with ACS
  - Managing their own medication
  - Prescriptions filled at Grady
  - ≥18 years
  - No severe dementia or delirium
  - English speaking

- Typically enrolled within 24 hours of admission

Methods: Measures

Baseline

- Demographics
- Health literacy (REALM)
- Self-Efficacy for Appropriate Medication Use Scale (SEAMS)
- Adherence to Refills and Medications Scale (ARMS)

Follow-up

- SEAMS
- ARMS

IMAGE-ACS Intervention
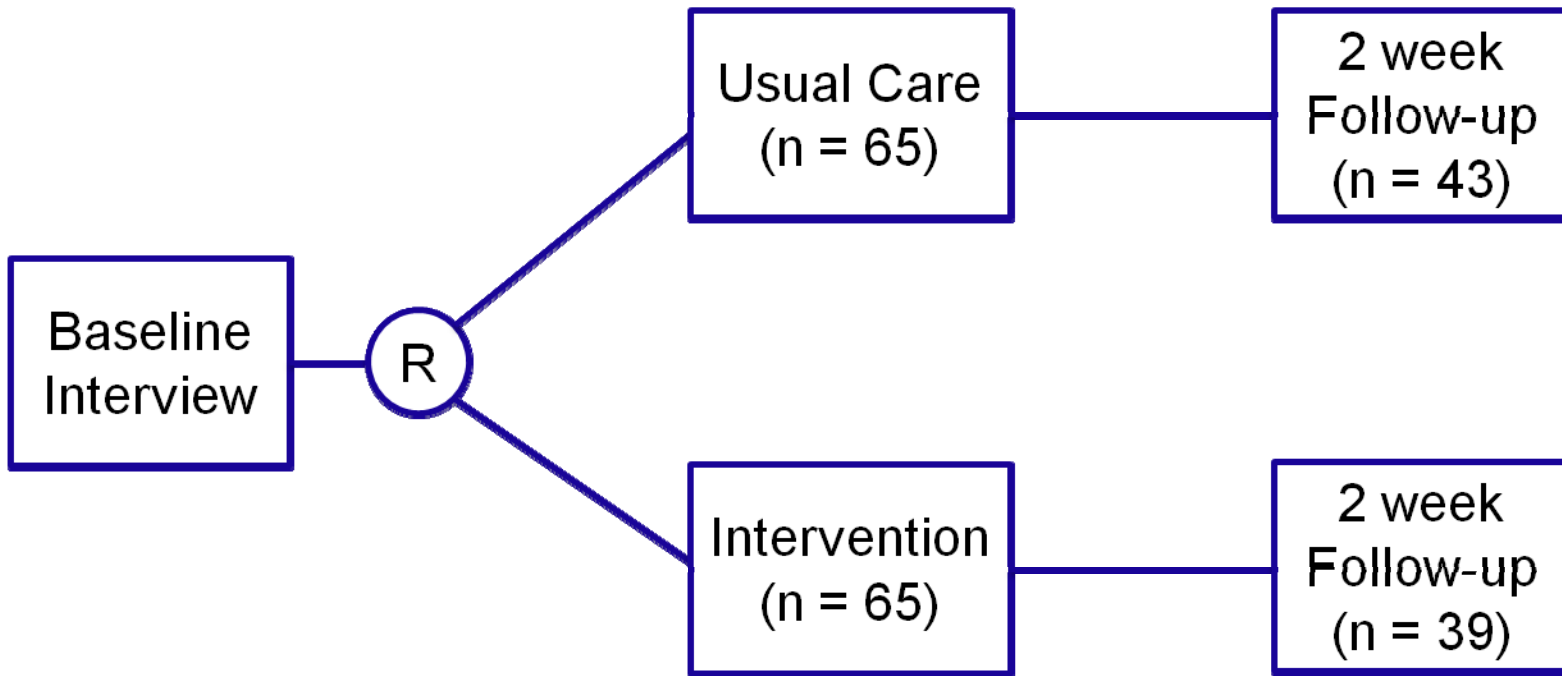
Intervention Components

- Pharmacist counseling of patients at discharge
  - Barriers to medication use/adherence, cost
  - Teach back

- Low-literacy adherence aids
  - Medication schedule (pill card)
  - Pill box

- Follow-up by pharmacist 2-3 days after discharge
  - Troubleshoot any problems

Intervention Materials

Pill Card

Pill Box

Methods: Analysis

- Included patients who completed follow-up (n = 82)

Primary outcome

- – Improvement in self-efficacy and adherence from baseline to follow-up

Statistical Analysis

- – Descriptive statistics
- – Analysis of covariance (ANCOVA)

Results

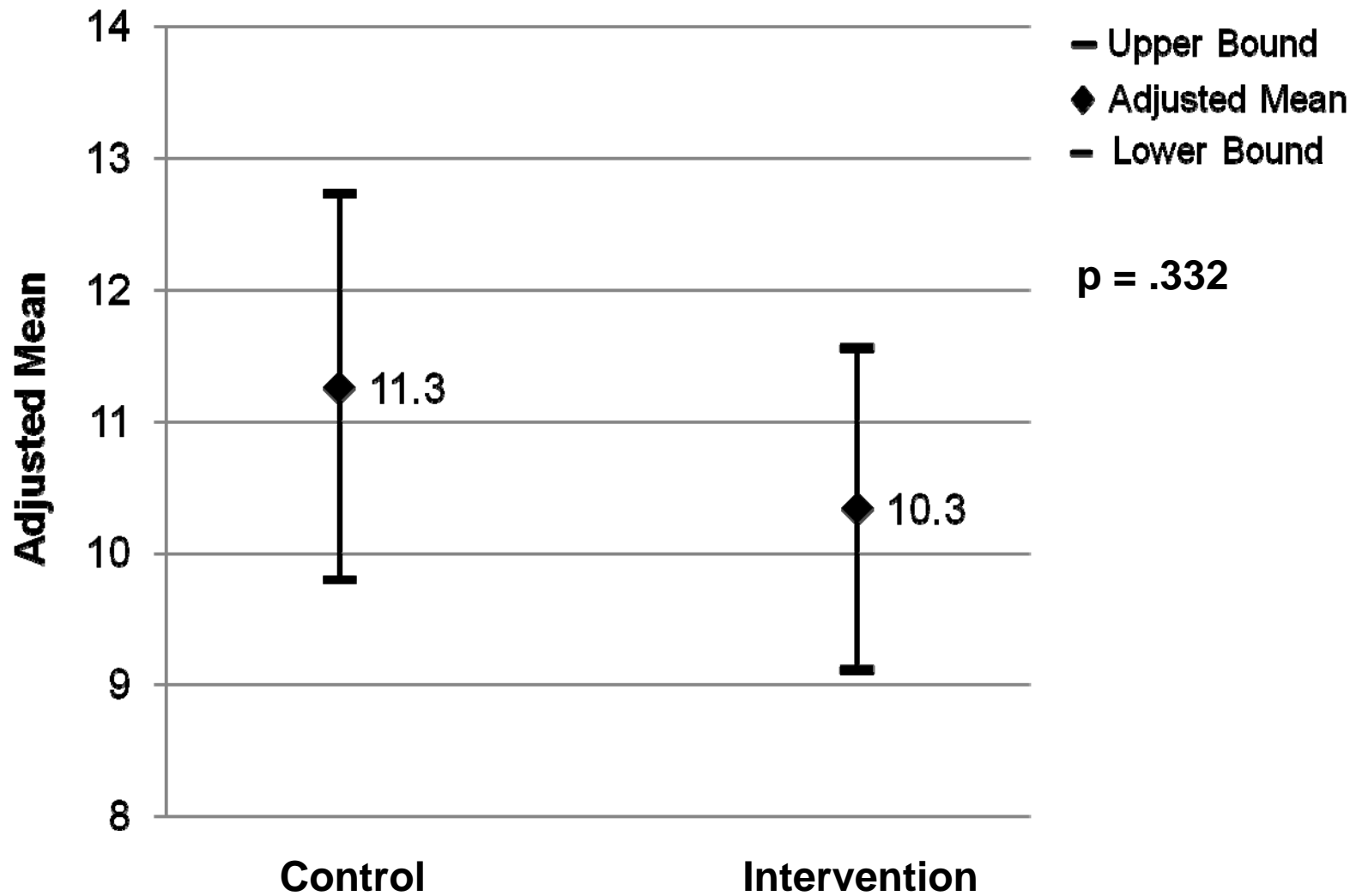| Patient Characteristics	Control (n = 43)	Intervention (n = 39)
Age, mean (SD)	52.3 ± 10.9	53.8 ± 9.7
Male, N (%)	24 (55.8)	21 (53.8)
Race: African-American, N (%)	41 (95.3)	38 (97.4)
Income: < 10K, N (%)	30 (73.2)	22 (59.5)
Years of education, mean (SD)	11.2 ± 2.6	11.6 ± 2.9
Health Literacy, N (%) ≤ 6th grade ≥ 7th grade	24 (55.8) 19 (44.2)	18 (46.2) 21 (53.8)

*No significant differences among study groups

Self-efficacy
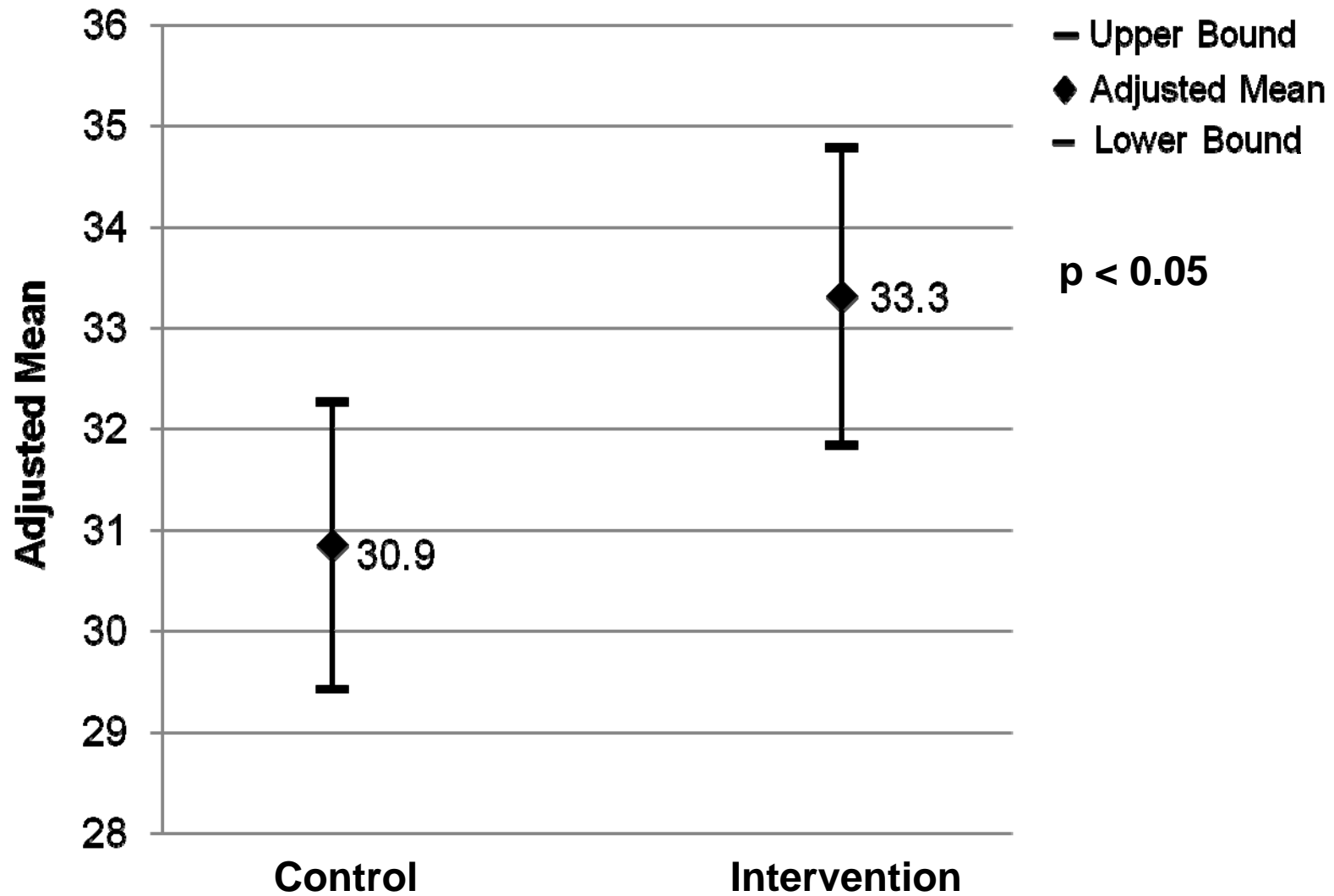
High Adherers
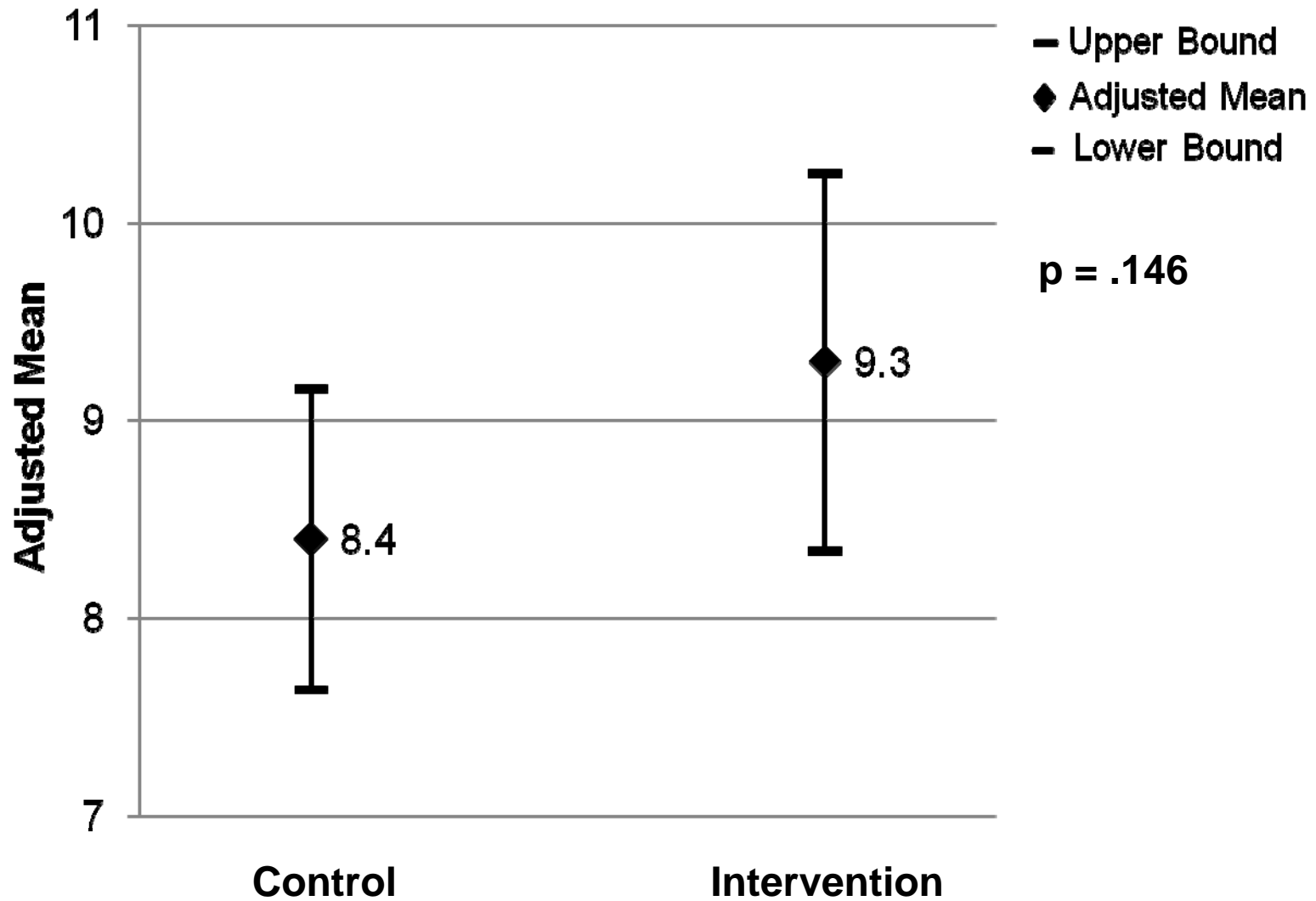
Low Adherers

Discussion

- A health-literacy sensitive, pharmacist intervention significantly improved patients' medication self-efficacy after hospital discharge

- Patients' medication adherence improved in both the intervention and control group after hospital discharge

  - This may be attributable to the acute hospitalization

Discussion

- Limitations
  - Single center
  - Inner-city population, 96% African-American
  - Small sample size
  - Losses to follow-up
  - Barriers to adherence are complex and may not have been addressed sufficiently by this simple intervention

- More intensive or tailored interventions may be needed to improve adherence significantly

Thank you

What questions do you have?