

# Patient Activation, Perceived Stress, and Medication Adherence in Urban African American Patients with Uncontrolled Hypertension: the Achieving Blood Pressure Control Together (ACT) Study

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## BACKGROUND

- ◇ *Hypertension*, or blood pressure levels  $\geq 140$  mm Hg systolic and  $\geq 90$  mm Hg diastolic increases one's risk for stroke, heart attack, and organ damage (e.g., kidney damage and vision loss; AHA, 2014)
- ◇ Approximately 70 million individuals in the U.S. have hypertension, with prevalence rates higher among African Americans compared to other racial groups (Go et al., 2014)
- ◇ Approximately 1/3 of patients with uncontrolled hypertension (i.e., diagnosis of high blood pressure at least two doctor visits) do not take their medication as instructed and after one year, 60% of hypertensive patients are non-adherent (Bosworth et al., 2008)
- ◇ *Perceived stress*, the degree to which situations in one's life are appraised as stressful, may hinder his or her willingness to prioritize taking antihypertensive medications, and thus contribute to one's non-adherence (Forsyth et al., 2014)
- ◇ *Patient activation* (i.e., engaging a patient in the management of his or her disease through education, building problem-solving skills, and improving physician-patient communication) allows a patient to gain control of his or her treatment (Hibbard, Stockard, Mahoney & Tusler, 2004)
- ◇ Activating a patient may have positive outcomes such as instilling confidence and improving self-efficacy, and perhaps ultimately, promoting a likelihood of medication adherence in the face of perceived stress (Kinney, Lemon, Person, Pagoto, & Saczynski, 2015)
- ◇ This study utilizes data from the Achieving Blood Pressure Control Together (ACT) Study (Principal Investigator: Ebony Boulware, MD, MPH; Supervisor: Patti Ephraim, MPH), a randomized controlled trial designed to test the effectiveness of behavioral interventions to increase self-management in African Americans with uncontrolled hypertension receiving primary care in Baltimore, MD ( $N = 159$ ). Data were collected during a telephone interview at enrollment assessed participant's perceived stress, patient activation, and medication adherence.

## HYPOTHESES

- ◇ Perceived stress will be related to medication adherence, *such that urban African American hypertensive patients that perceive themselves to be experiencing higher stress levels will tend to have lower levels of medication adherence.*
- ◇ Perceived stress will be related to patient activation, *such that urban African American hypertensive patients who report higher perceived levels of stress will tend to have lower levels of patient activation.*
- ◇ Patient activation will be related to medication adherence, *such that urban African American hypertensive patients who have lower patient activation levels will tend to have lower levels of medication adherence.*
- ◇ Patient activation will mediate the negative relation between perceived levels of stress and medication adherence for urban African American hypertensive patients.

## METHODS

### Study Design and Participants

- ◇ Cross-sectional study of baseline data from the Achieving Blood Pressure Control Together (ACT) study, a randomized trial of 159 urban African Americans with uncontrolled hypertension
- ◇ Data taken from responses to a telephone administered interview at baseline

### Measures

- ◇ Perceived Stress Scale (PSS): Looks at perceived stress in the last month, 14-item Likert scale self-report questionnaire, High score indicates high stress levels
- ◇ Patient Activation Measure (PAM): 13- item self-report questionnaire, Likert scale, High score indicates high levels of activation
- ◇ Morisky Medication Adherence Scale: 8-item self-report questionnaire, #1-7 are Yes/No questions, #8: How often do you have difficulty remembering to take all of your medications (never/rarely, once in a while. Sometimes, usually, all the time, refused, don't know), High score indicates high levels of non-adherence (low medication adherence)

### Proposed Analysis

- ◇ Descriptive data (e.g., Mean, SD) will be run on all study variables
- ◇ Cross-sectional analysis of each variable at baseline (Hypotheses 1-3): Pearson Product-Moment Correlation Coefficients
- ◇ Mediation analysis (Hypothesis 4) of patient activation in relation between perceived stress and medication adherence: Hayes and Preacher Bootstrapping method

For more information on this research or for a list of references, please contact the primary investigator, Caroline Zimmermann, at [cfzimmermann@loyola.edu](mailto:cfzimmermann@loyola.edu)

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## STUDY AIMS

- ◇ Investigate the relation between perceived stress to the outcome of medication adherence, the relation between perceived stress and patient activation, and if patient activation is associated with medication adherence for this sample of uncontrolled hypertensive urban African Americans
- ◇ Determine whether or not patient activation mediates the relation between perceived stress and medication adherence

