

## Mindfulness Attitude to Deliver Dietary Approaches to Stop Hypertension (MAD DASH)

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### Abstract

A significant proportion of the African American (AA) population is living with blood pressures consistent with the clinical criteria for prehypertension or hypertension and many are untreated and undiagnosed. AAs with prehypertension have a 35% greater risk of progressing to hypertension than whites. Dietary Approaches to Stop Hypertension (DASH) is a gold standard intervention for hypertension self-management. However, the barriers to self-management of hypertension reported by AAs include stress, including perceived stress related to racism/discrimination; perceived lack of control over getting hypertension in the future; limited social support; and low motivation to change behaviors. Self-management interventions that activate relevant areas (analytic and emotion) of the brain are hypothesized to optimize the adoption of health-promoting behaviors. In this pilot study a comprehensive intervention that engages both analytic and emotional brain processing is proposed to help AAs to improve motivation, activation and self-efficacy, and garner the necessary social support to succeed in the management of prehypertension.

The purpose of this study is to test the effects of a promising new self-management intervention for AAs, a Mindfulness Attitude to Deliver the Dietary Approach to Stop Hypertension (MAD DASH) that departs from conventional interventions to address prehypertension by combining two self-management interventions (Mindfulness and DASH) in a group setting. We will conduct a three-group RCT of 45 AA adults aged 40-64 from the community to describe the effect of MAD DASH on sodium intake, blood pressure, and quality of life. The DASH education group will be led by a dietician and meet weekly for eight sessions. The MAD DASH group will be led by a mindfulness trained interventionist and a dietician for mindfulness practice and diet education. These sessions will also be held weekly for eight weeks. The usual care group will receive a DASH diet education brochure. Brain imaging will be done to explore differences in brain activation associated with self-management between the groups. We will gather pilot data to inform a future study using the following aims:

1. Determine whether there are differences in sodium intake, blood pressure (BP), and health related quality of quality of life (HRQoL) among those who receive the analytic component (DASH diet education only), emotional component (MAD-DASH mindfulness plus DASH diet education) and those receiving usual care (DASH pamphlet).
2. Examine whether patient activation, motivation, decision-making, self-efficacy, and health information mediate the relationship between the MAD DASH mindfulness intervention and self-management behaviors (diet, self-monitoring, and physical activity).
3. Determine if social support, demographics (gender), and allostatic load moderate the proximal (diet, physical activity) or distal (BP, sodium, and HRQoL) outcomes.
4. Explore differences in brain activation (fMRI) cortical networks, and HPA Axis/stress function (cortisol) among MAD DASH intervention, DASH education only intervention, and usual care.