Self-Management and Physical Activity in African Americans with Hypertension

Linda P. Bolin, PhD, RN, ANP, Patricia B. Crane, PhD, RN, James R. Powell, MD

Linda P. Bolin, PhD, RN, ANP
College of Nursing
East Carolina University
bolinl@ecu.edu

SIGNIFICANCE

- A third of the US population has hypertension (HTN)
- African Americans (AAs) have a higher prevalence of HTN (41.2%) with only 58% at target goal
- More complications and poor outcomes are seen in AAs with HTN
- Physical activity (PA) in addition to pharmacological management is important in controlling HTN
- Little is known about factors that influence the self-management of PA in AAs who have high medication adherence.

STUDY AIM

To examine the influence of factors (systolic blood pressure [SBP], co-morbidities, serum potassium and creatinine levels, education, depression, social support, and locus of control) on self-management behavior (PA) in AAs with HTN who were pharmacologically optimized and reported high medication adherence.
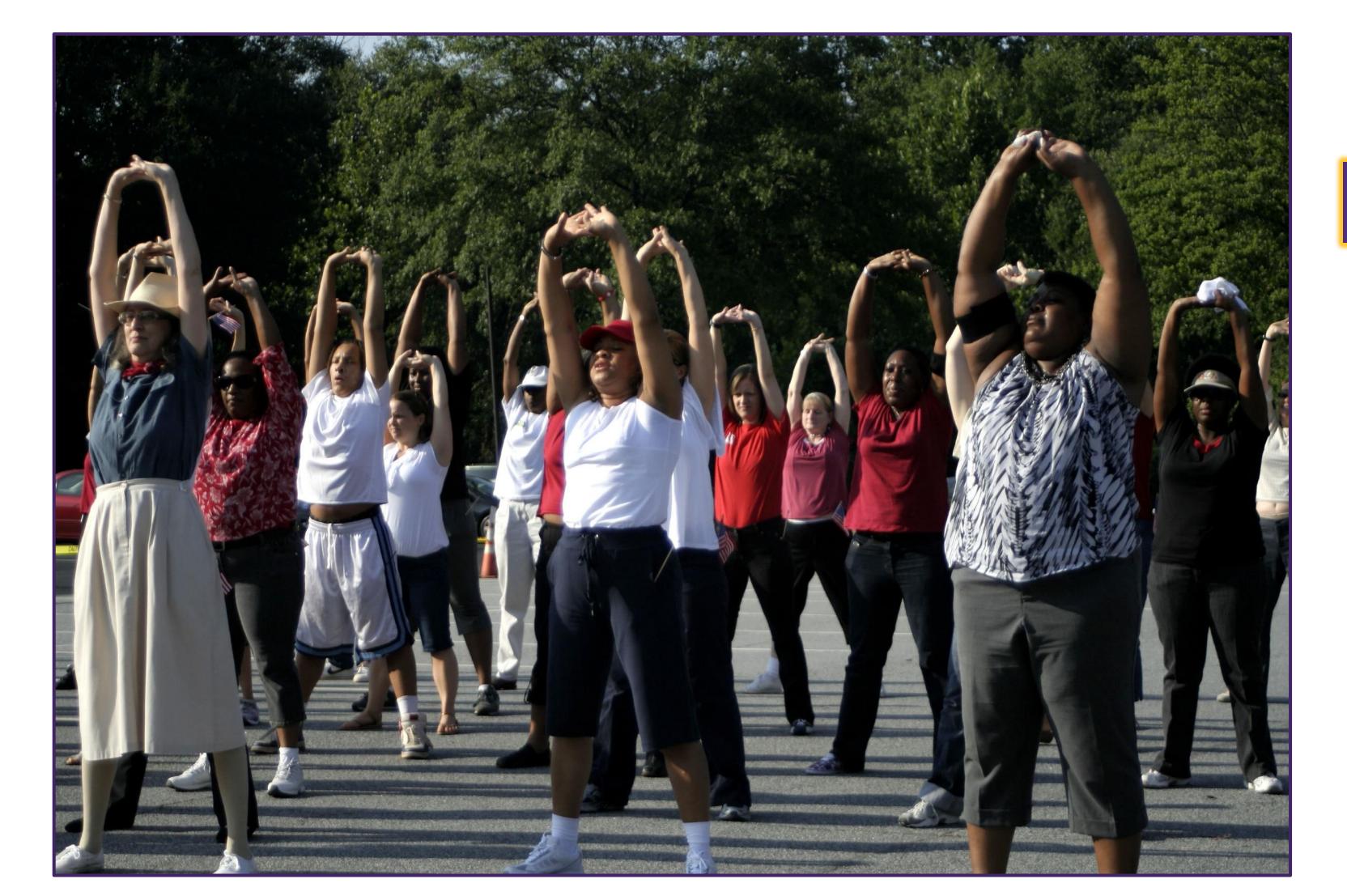
METHODS

- Cross-sectional descriptive correlational design
- Convenience sample 77 AAs with HTN who completed the SPRINT Study:
  - Ages 55-84 (M=66.17; SD=7.68)
  - Men n=27; Women n=50
  - Those with baseline SBP > 140 (n=26; 34%)
- Tools and standardized Instruments:
  - Demographic and Physiological health tool
  - Self-reported PA 100 mm visual analog scale (VAS-PA)
  - Multidimensional Health Locus of Control Scale
  - Patient Health Questionnaire-9 (PHQ-9)

RESULTS

Means and Correlations VAS-PA (N=77)

Variable	M	SD	1	2	3	4	5	6
VAS-PA Measure	74.68	25.68	-0.71	-.176	.015	-.294**	.105	-.040
Predicators								
1. Systolic BP	132	14.74	-	.025	-.023	-.025	-.094	.203
2. Creatinine	1.16	1.04		-	.302**	-.131	.094	.354**
3. Potassium	3.98	0.45			-	.059	-.162	.075
4. PHQ-9	3.35	4.06				-	-.336**	-.075
5. LOC-Internal	29.25	5.81					-	.174
6. LOC-External	13.44	7.39						-

BP = Blood Pressure; PHQ-9 = Patient Health Questionnaire – Depression; LOC = Locus of Control; VAS-PA = Visual Analog Scale – Physical Activity
*p < .05; **p < .001

Regression Models: Adherence to PA (N=77)

Variable	Model 1- Internal LOC			Model 2 - External LOC		
	B	SE B	ß	B	SE B	ß
Systolic BP	-.05	0.18	-.03	-.06	0.18	-.03
Co-morbidities	-.97	2.23	-.05	-.87	2.23	-.04
Creatinine	-6.37	2.81	-.26*	-6.66	2.92	-.27*
Potassium	8.99	6.44	0.16	9.12	6.32	0.16
Education	2.69	2.59	0.11	2.96	2.71	0.12
PHQ-9	-8.17	2.37	-.38**	-8.15	2.27	-.38**
Support	3.93	1.58	0.27*	3.87	1.59	0.26*
LOC-Internal	-.09	2.97	-.003			
LOC-External				.79	2.49	0.04
R^2		.283			.284	
F		3.361			3.378	
p		.003			.003	

*p< .05; ** p < .01

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DISCUSSION

- Most (63%) with lower PA were < age 65 and obese (74%), indicating specific populations to assess and promote participation in PA.

- Despite high medication optimization and adherence, 34% had SBP >140. Focusing on lifestyle behaviors as important adjuncts to effective blood pressure control in AAs is warranted.

- Mild depressive symptoms affected PA. Future studies should test interventions to treat mild depression and increase social support to influence PA in AAs with HTN.

References: Aronow et al, 2011; Benjamin et al, 2017; CDC, 2013; Dinwiddie et al, 2015; Fernandex et al, 2011; Litchman et al, 2008; Nwankwo et al, 2013: Ostchega et al, 2008; Walston, 2007; Yoon, 2015