

Strategies for Improving Medication Adherence for Hypertension Among Haitian Immigrants Living In the United States



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Background & Aims

Hypertension (HTN) impacts 26.4% of the global population. Nearly half of adults in the U.S. have HTN. Blacks or African Americans are disproportionately affected HTN than Whites (26.5% vs. 17.4, respectively). They are also more likely to have uncontrolled HTN. Haitian immigrants, a subgroup of Blacks tend to have a lower awareness of HTN as a disease. This project was an evaluation of a culturally-tailored patient education program focused on improving medication adherence among Haitian immigrants seeking healthcare at an outpatient health clinic.

The project aims were:

- 1) To increase knowledge of hypertension by 20% among Haitian immigrants,
- 2) To reduce 2-3 non-adherent behaviors among Haitian immigrant, and
- 3) To decrease systolic blood pressure by 10 mmHg and Diastolic by 5 mmHg.

Intervention

An educational brochure designed for African Americans by the American Heart Association on how to manage and control HTN implemented using two tasks:

- Face-to-face educational session
- Digital BP monitor instructional session

Methods

Design: Quality Improvement pre- and posttest

Setting: Mid-size clinic in the Northeast region of the U.S.

Participants: Adults ≥18 years w/ HTN and identify as Haitian

Outcome Measures:

- Aim 1: Hypertension Knowledge Test (HKT)
- Aim 2: Hill-Bone Blood Pressure Compliance Scale (HB Scale)
- Aim 3: Systolic and Diastolic blood pressure, taken at-home with blood pressure machine by PI

IRB Approval: Expedited, Johns Hopkins Medicine

Statistical Analysis: Descriptive statistics , Paired t-tests , Wilcoxon (non-parametric) Signed-rank Test

Results: Aim 1. HTN Knowledge Test

Paired t-test (N =25)		Mean Score/SD	SD Error Mean	p-value
Baseline	Pre-intervention	8.56 (1.89)	0.379	< 0.01
	Post-Intervention	11.84(0.47)	0.095	< 0.01
6-weeks	Pre-intervention	8.41(1.88)	0.349	< 0.01
	Post-intervention	10.79 (1.74)	0.323	< 0.01

Blood Pressure Categories

BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
NORMAL	LESS THAN 120	and	LESS THAN 80
ELEVATED	120 – 129	and	LESS THAN 80
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1	130 – 139	or	80 – 89
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
HYPERTENSIVE CRISIS (consult your doctor immediately)	HIGHER THAN 180	and/or	HIGHER THAN 120

Results: Aim 2. Hill-Bone Compliance Scale

N=25	Mean	SD	t
Reducing Sodium			-3.89*
Pre-test score	10.28	1.72	
Post-test score	11.56	0.65	
Mean Difference	1.28		
Keeping Appointments			-4.42*
Pre-test score	5.52	1.33	
Post-test score	6.6	0.82	
Mean Difference	1.08		
Medication Adherence			-4.15*
Pre-test score	33.52	2.43	
Post-test score	35.64	0.57	
Mean Difference	2.12		

Results: Aim 3. Blood Pressure

Table 3. Blood Pressure Results

Blood Pressure (N=25)	Pre-Intervention Mean (SD)	Post-Intervention Mean (SD)	Mean Difference	t	p-value
Systolic, mm/Hg	145.16	128.76	16.4	5.77	<0.01
Diastolic, mm/Hg	86.92	79.64	7.28	6.40*	<0.01

Conclusion

- Culturally-tailored education is necessary for Haitian immigrants.
- Low-cost education programs are sustainable.
- This intervention improved HTN knowledge, medication adherence and overall BP for Haitian immigrants.
- Further investigation needed to examine social determinants of health of Haitian immigrants.
- Although this study did not have a comparison group, and had a small sample, it had a large effect, indicating it should be replicated in a more rigorous study with a larger sample.

References

- Bosworth, H. B., Olsen, M. K., Neary, A., Orr, M., Grubber, J., Svetkey, L., ... Oddone, E. Z. (2008). Take control of your blood pressure (TCYB) study: A multifactorial tailored behavioral and educational intervention for achieving blood pressure control. *Patient Education and Counseling*, 70(3), 338-347.
- Buckley, L., Labonville, S., & Barr, J. (2016). A systematic review of beliefs about hypertension and its treatment among African Americans. *Current Hypertension Reports*, 18(7), 52.
- Buis, L., Hirzel, L., Dawood, R. M., Dawood, K. L., Nichols, L. P., Artinian, N. T., ... Levy, P. D. (2017). Text messaging to improve hypertension medication adherence in African Americans from primary care and emergency department settings: Results from two randomized feasibility studies. *JMIR mHealth and uHealth*, 5(2), e9
- Han, H. R., Chan, K., Song, H., Nguyen, T., Lee, J. E., & Kim, M. T. (2011). Development and evaluation of a hypertension knowledge test for Korean hypertensive patients. *The Journal of Clinical Hypertension*, 13(10), 750-757.