

4-10-2013

# Awareness, Treatment and Control of Hypertension in Kenya

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## Recommended Citation

Kariuki, Jacob; Stuart-Shor, Eileen M.; Kimani, Samuel; Muchira, James; Demita, Jessica; Milton, Heather; Kamau, Mercy; Mutuma, Vincent; Golden, Darren; and Kariuki, Peris, "Awareness, Treatment and Control of Hypertension in Kenya" (2013). *Office of Community Partnerships Posters*. Paper 152.

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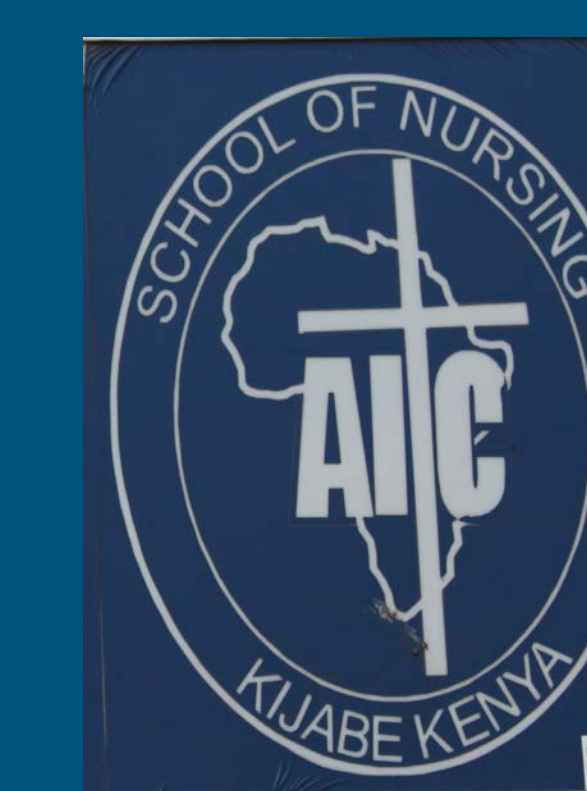
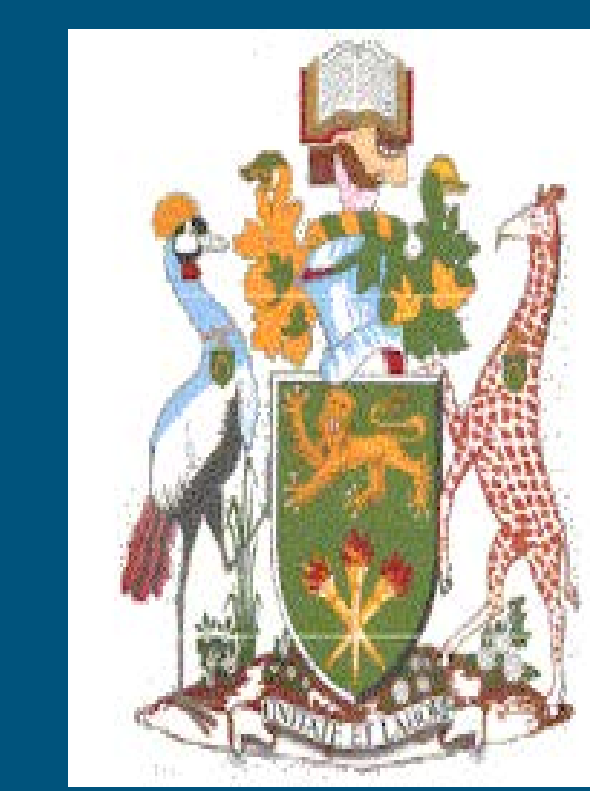
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# Awareness, Treatment and Control of Hypertension in Kenya

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## BACKGROUND

- The emerging epidemic of hypertension (HTN) in sub-Saharan Africa is predicted to worsen.
- Uncontrolled HTN is associated with CVD, high morbidity and premature mortality; hence early detection, treatment and control of HTN is critical to reduction of the associated sequelae.
- The study was guided by the Social Ecological Model and principles of Community Based Participatory Research.

## PURPOSE

The purpose of this study was to examine the pattern of awareness, treatment and control of hypertension among community dwelling Kenyans.

## METHODS

- Sample:** Consecutive individuals screened at 5 community health centers by trained US/Kenyan clinicians using validated biobehavioral protocols.
- HTN was defined as self-reported history (Hx) of HTN (told by a health care provider that they had HTN) or SBP  $\geq 140$  mmHg (mean of 3 readings measured per index visit); Awareness was defined as SBP  $\geq 140$  mmHg and self-reported Hx of HTN; Treatment was defined as Hx of HTN and on antihypertensive medication; Control was defined as SBP  $< 140$  mmHg for those on antihypertensive treatment.
- Data were entered onto excel through double investigator entry and imported into Stata© for analysis.
- US and Kenyan IRB approvals were obtained. US/Kenyan IRB approval was obtained.

## ANALYSIS

- Descriptive statistics and unadjusted bivariate analysis using chi<sup>2</sup> for categorical variables to test between group differences stratified by age and gender.

## RESULTS

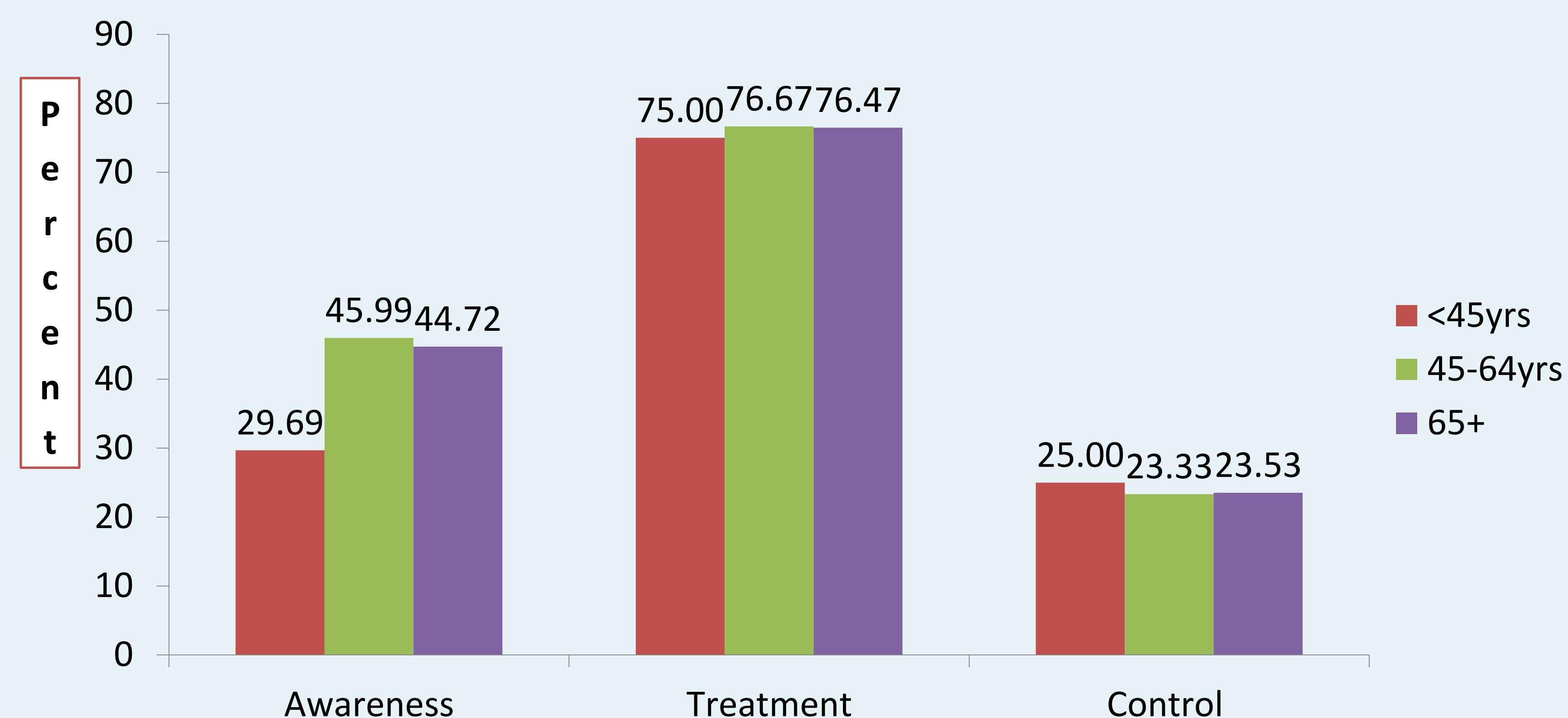
Sample Characteristics	All (N=941)		Lifestyle Characteristics	All	
	n	%		n	%
Age (mean/SD $\pm$ )	48.6	18.7	ETOH	49	5.3
Women	734	78.76	Stress	430	43.22
Tribe (Kikuyu)	812	87.88	Depression sx (PHQ $\geq 3$ )	136	16
Hx HTN	207	26.30	< 1 hr/day Physical Activity	158	16.79
Anti-HTN Rx	170	18.12	Add salt to cooking	800	85.02
Hx DM	64	6.89	Add salt at table	267	28.37
Hx Obesity	94	10.28	3+ serv veg/day; cat var	41	4.12
Hx High Chol	28	3.03	Eat beef/pork/chic daily	13	1.31
Hx CVD	58	6.24	Daily beans (protein)	119	11.96
Current Smoking	55	6.29	Never/rarely drink soda	245	24.62
			Cook with solid fat	561	56.38

### Distribution of Clinical Cut Points

	Stratified by Gender						p
	All		Men		Women		
	n	%	n	%	n	%	
Mean Blood Pressure [SBP 137.61, SD 23.61(N=941)]							
SBP $\geq 140$ mmHg or HTN hx	385	48.92	76	46.91	306	49.35	0.58
SBP $\geq 120 < 140$ mmHg	371	39.81	78	39.39	293	39.92	0.32
SBP $\geq 140$ mmHg	383	40.07	88	44.44	290	39.51	0.21
SBP $\geq 160$ mmHg	147	15.77	38	19.19	109	14.85	0.14

SBP = Systolic blood pressure; prehypertension 120-139/90 mmHg; Stage 1 = 140-159/90 mmHg; Stage 2 =  $\geq 160/90$  mmHg.

### HTN awareness, treatment and control stratified by age



## CONCLUSIONS

- Among the individuals screened, HTN awareness was low (46%) and younger individuals were less likely than older individuals to be aware.
- Once identified with HTN, 72% had treatment initiated and there were no differences in treatment by age.
- Among those treated, control is low (27%) and there are no differences by age.



## IMPLICATIONS FOR PRACTICE

Factors associated with HTN detection, treatment & control:

### Detection

- Access to guideline directed screening that is integrated with care.

### Treatment

- Access to preventive services (targeted on identified risk factors).
- Medication (available, affordable, high-quality)

### Control

- Consistent access to monitoring & medication

- Capacity strengthening at the community and district/national hospital level

- Policy (Tobacco, unhealthy foods, urban planning)

- Research (Risk prediction models, Region specific diet/activity assessment, Differential etiology, Systematic surveillance)