



Hypertension Awareness, Treatment and Control Among African and Brazilian Immigrants in Portugal

A population-based study

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Background

Immigrants are more vulnerable to the effects of hypertension, evidencing differences in morbidity and mortality [1],[2]. In Portugal, no studies about hypertension treatment and control in immigrants were found. This study aimed characterizing hypertension awareness, treatment and control in two migrant populations with more than 30 years old of age: African from the ex-colonies and Brazilian immigrants.

Methods

Sampling

Sub-sample of the study intitled: "Evaluation of Health and Health Assessment of African and Brazilian Immigrants in Portugal" conducted in 2007 in which a questionnaire adapted from 4th National Health Survey was applied to African and Brazilian immigrant communities living in Lisbon and Setubal Districts.

With the help of a Geographic Information System (GIS) software (ArcGIS 9.1) a geographical random cluster sampling process was carried out in three steps:

1. Selection of the county
2. Random selection of 20 squares of 50 m x 50 m in each county
3. In each square all households were contacted to verify their eligibility and to invite them to participate in the study at a later stage

As immigrants communities we considered:

- all immigrants, even the naturalized
- descending of immigrants including the third-generation

Data collection

Data collection was conducted during a home visit by trained research interviewers, most of them from the communities in study.

Information on the history of hypertension and the use of antihypertensive medication was obtained by the use of a standard questionnaire applied to all individuals aged ≥ 30 years.

Blood pressure measurement was obtained with an OMRON sphygmomanometer (model M6), using standardized methods and conditions according to the World Health Organization recommendations[3].

Definitions

❖ Hypertension was defined by two standard criteria: a systolic blood pressure (SBP) ≥ 140 mm Hg and/or diastolic blood pressure (DBP) ≥ 90 mm Hg, or as current use of antihypertensive medication.

❖ Awareness was defined as answering "yes" to the question "Have you ever been told, by a doctor or a nurse, that you had high blood pressure", with the exclusion of women who had hypertension diagnosed during pregnancy.

❖ Treatment was defined as the use of antihypertensive drugs at the time of the interview.

❖ The control was defined as SBP < 140 mm Hg and DBP < 90 mm Hg, and was determined by direct measurement of the blood pressure.

❖ The treatment rate was the number of hypertensive individuals who were receiving antihypertensive medication divided by the total number of hypertensive individuals.

Medication use was based on self-report.

❖ The rate of hypertension control was defined as the number of treated hypertensive individuals with blood pressure $< 140/90$ mm Hg divided by the total number of hypertensive individuals.

Results

317 individuals were examined: 61% were women; mean age was 45 ± 10.9 years; 77% were African and 23% Brazilian; mean years in Portugal was 13 ± 9.3 . There are differences in age and number of years in Portugal in these two communities ($p < 0.001$), but no statistical differences were found concerning sex (Table 1).

Overall 45.4% had hypertension (Table 2). Hypertension prevalence was higher among men (55.1%) than women (39.2%) ($p < 0.05$); increased with age: 18.4%, 47.9%, and 81%, in individuals aged less than 35, 35-64, and 65 years or more, respectively ($p < 0.001$).

Prevalence of hypertension was higher among African (52.2%) than Brazilian (24.3%) ($p < 0.001$). In African, prevalence varied by sex ($p < 0.01$) and age ($p < 0.001$). In Brazilian these differences have no statistical significance.

Overall, 42% of hypertensive were aware of their diagnosis, more African (43%) than Brazilian (33%) ($p < 0.05$). Around 47% of those with hypertension were medicated, more African (50%) than Brazilian (33%) ($p < 0.05$). Mean years of diagnosis is 11 ± 10.8 and of medication, 10 ± 9.6 ; with no differences between African and Brazilian.

Only 19% of hypertensive and 40% of hypertensive medicated achieved blood pressure control.

Table 1 – Distribution of Selected Characteristics for African and Brazilian adults

Characteristics	All Participants (n = 317)	African (n = 243)	Brazilian (n = 74)	P Value
Age, years, mean \pm Standard deviation	45 ± 10.9	47 ± 11.3	40 ± 7.3	< 0.001
Female (%)	61%	63%	51%	0.064
Years in Portugal, mean \pm Standard deviation	13 ± 9.3	16 ± 8.9	5 ± 3.2	< 0.001
Education (%)				
Until the 7th grade	72%	83%	37%	< 0.001
Until high school	19%	10%	49%	
Some college or college graduate	9%	7%	15%	

Table 2 – Prevalence of Hypertension for Selected Characteristics Among African and Brazilian adults

Characteristics	All Participants (n = 317)	African (n = 243)	Brazilian (n = 74)	P Value
Global Prevalence	45.4%	52.2%	24.3%	< 0.001
Sex				
Male	55.1%	64.6%	33.3%	0.075
Female	39.2%	45.3%	15.8%	
Age				
Less than 35	18.4%	20.0%	15.8%	0.711
35-64	47.9%	54.2%	27.3%	< 0.001
65 years or more	-	81.0%	-	
Years in Portugal				
≤ 5 years	36.2%	52.0%	27.3%	0.040
6-10 years	39.5%	49.1%	20.7%	0.011
≥ 11 years	-	54.9%	-	
Aware of hypertension	42.0%	43.3%	33.3%	0.026
On medication	47.4%	49.6%	33.3%	0.030
Controlled blood pressure	18.5%	19.7%	11.1%	0.525

Conclusions

African migrants seem to be at higher risk for hypertension, Brazilian migrants at a higher risk of being unaware having this disease and therefore not being treated. This data highlights inequalities among immigrants, which should be subject to further studies.

Bibliographic References

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