PRESCRIPTION PATTERNS OF ANTIHYPERTENSIVES IN A COMMUNITY-HEALTH CENTRE IN MEXICO CITY. A DRUG UTILIZATION STUDY

From January 2012 to December 2014, a sample of 345 clinical records of interest were identified; most patients received antihypertensive medications (86.4%; n=298). The main characteristics of this sample are presented in Table 1. Mean age in women was higher than in men (62.2±12.9 years vs. 58.9±13.6 years; p=0.029). A number of patients presented several co-morbidities and, consistently, also received other medications; overall, 96.8% had whatever medication and 38% had four or more medications.

In those having antihypertensives (n= 298), the leading medications used were angiotensin-converting enzyme inhibitors (ACEIs); 63.78% of all patients received a drug from this class; ACEIs were followed by betablockers (26.5%), diuretics (19.8%), angiotensin-receptor blockers (ACBs) (15.8%) and calcium channel blockers (6.4%); no other classes of antihypertensives were used. The most commonly used ACEI was enalapril (105 out of 190 for this class). Women did not receive moreantihypertensivesthan men (X^2_4=3.290; p=0.511) nor did receive a significantly different type of antihypertensives: ACEIs (X^2= 0.324; p=0.569), betablockers(X^2= 2.430, p=0.119), diuretics, (X^2= 0.390; p=0.532), ACBs, (X^2= 0.530; p=0.467) or calcium channel blockers (X^2= 0.004; p=0.951). Of those medicated (n=298), 72.1% were in monotherapy, the rest receiving more than one antihypertensive medication (two antihypertensives, 23.2%; three, 4.0%; and four, 0.7%); women did not receive a different number in combination than men (X^2_3=1.780; p=0.619). Patients older than 55 years did not receive a higher number ofantihypertensives compared to younger ones (X^2= 1.390; p=0.708).

As for hypertension control, we had data upon 281 patients who had antihypertensives; of those, 105 (37.4%) were considered as controlled (men, 40.4%; women, 35.9%); no differences by sex were found (X^2=0.529; p= 0.467). The number of patients who are seen by a

single doctor does not correlate with the percentage of hypertension control (F=0.008; p=0.931); neither the type (Table 2; X^2_3=2.712; p=0.438) nor the number of medications in combination (X^2_3=2.592; p=0.459). In a multivariate model, only the age (≥ 55 years) and BMI (>30) of the patients, and the age of the doctors (≥ 55) had an important influence on blood pressure control (Table 3).

Table 1. Sample of hypertensive patients studied (n=345). Main characteristics

	Frequency (%)
Age, mean in years (SD)	61.2 (13.2)
Sex	
Men	107 (31.0)
Women	238 (69.0)
Education	
Illiterate	36 (10.4)
Elementary	116 (33.6)
Junior high school	69 (20.0)
Technical school	29 (98.4)
High school	38 (11.0)
College	31 (9.0)
Missing	26 (7.5)
Marital status	
Single	101 (29.3)
Married	142 (41.2)
Widowed	56 (16.2)
Divorced	28 (8.1)
Missing	18 (5.2)
Occupation	
Homemaker	163 (47.2)
Active worker	129 (37.4)
Unemployed	21 (6.1)
Retired	8 (2.3)
Missing	18 (5.2)
Lifestyle	
Smoker	52 (15.1)
Heavy drinker	8 (2.3)
Co-morbidities	
Obesity	92 (26.7)
Diabetes	85 (24.6)
Dyslipemia	50 (14.5)
Venous insufficiency	40 (11.6)

Table 2. Patients treated for hypertension. Type of medications and hypertension control

Type[a]	Controlled (n= 105)[b] n (%)	Uncontrolled (n= 176)[b] n (%)	Total (n=281)[b] n (%)	X^2; p
Diuretics	18 (17.1)	38 (21.6)	56 (19.9)	0.815; 0.367
Betablockers	32 (30.5)	42 (23.9)	74 (26.3)	1.482; 0.223
ACEIs	68 (64.8)	110 (62.5)	178 (63.3)	0.145; 0.703
ARBs	12 (11.4)	32 (18.2)	44 (15.7)	2.271; 0.132
Calcium channel blockers	5 (4.8)	12 (6.8)	17 (6.0)	0.489; 0.484

[a] Patients can combine medications from different types; as a result, the sum of the percentages is not b most common combination was that of a diuretic and an ACEI (i.e., chlorthalidone plus captopril or enalapril, 15)

[b] The total distribution for individual medications was: For diuretics: furosemide, 10; espironolactone, 2; chlorthalidone, 43; hydrochlorotiazide, 5. For betablockers: metoprolol, 75; atenolol, 3; propranolol, 1; timolol, 1. For ACEIs: captopril,

84; enalapril, 105; ramipril, 1. For ARBs: candesartan, 3; irbesartan, 2; losartan, 31; telmisartan, 12. For calcium antagonists: dihidropiridines, 14 (amlodipine, 12; nifedipine, 2); diltiazem, 2; verapamil, 3.

Table 3. Risk factors accounting for a lack of hypertension control

Factors	Odds Ratio (95%CIs)
Age (>55 years)	1.82 (1.02-3.25)
Obesity (BMI > 30)	2.21 (1.27-3.83)
Doctor age (> 55 years)	2.61 (1.51-4.52)

Hosmer and Lemeshow test = 7.772; p= 0.255