Original Article

Clinical-epidemiological characterization of hypertensive patients from a medical office in Santa Clara

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ABSTRACT

Introduction: arterial hypertension is a chronic disease with high morbidity worldwide. Its approach represents a challenge for the health system at its different levels of care, but especially for the primary level, since it is here where the diagnosis and follow-up of most cases are carried out. Objective: to clinically and epidemiologically characterize patients diagnosed with high blood pressure belonging to the 17-4 medical office in the municipality of Santa Clara. Method: an observational, descriptive, cross-sectional study was carried out in the period from February to May 2021. The universe consisted of 193 hypertensive patients. The studied variables were: age, sex, skin color, risk factors, symptoms at the time of diagnosis, family history and drugs used for treatment. Results: the age group from 40 to 59 years old (48,7 %), the female sex (58 %) and the black-skinned patients (36,8 %) prevailed. Smoking stood out as a risk factor (71,3 %) and headache was the most frequent symptom at the time of diagnosis (43,3 %). Patients with a family history of first-degree arterial hypertension represented 35,2 % of the cases. Of the total number of patients, 69 received treatment with angiotensin converting enzyme inhibitors. Conclusions: the most affected patients are female with a family history of high blood pressure. Smoking was the predominant risk factor in the population and angiotensin converting enzyme inhibitors were the most used medication.

Keywords: Students; Medical; Internet Addiction Disorder; Technologies of the Computer Science.

Arterial hypertension (AHT) is a chronic disease defined as the presence in a patient of systolic blood pressure figures of 140mmHg or more, or a diastolic blood pressure equal to or greater than 90 mmHg, or both figures, in three or more determinations confirmed in basal conditions[1].

This is a polygenic disease, interrelated with environmental factors; its prevalence is associated with multiple economic, social, cultural, and ethnic factors[1,2].

The World Health Organization (WHO) estimates that some nine million deaths and more than 75 million years of healthy life are lost annually due to dangerous levels of blood pressure. Between 10 % and 30 % of the adult population in almost all countries suffer from high blood pressure[3].

For the countries of Latin America and the Caribbean, the prevalence of AHT for the year 2000 was 38 % and it is estimated that by 2025 it will increase to 42 %[4,5].

In Cuba, after the success achieved in the fight against communicable diseases, there is an increase in chronic non-communicable diseases as an important cause of morbidity and death. Thus, heart conditions are among the top five lethal causes in the country and, among these, those related to high blood pressure occupy an important place[6].

In the year 2018, the prevalence rate of hypertension in Cuba was 225,2 per 1 000 inhabitants, with female sex as the most affected with a rate of 236,5 per 1 000 inhabitants, as well as the age group from 60 to 64 years old[7].

Despite the programs and strategies outlined for the prevention and control of hypertension, in recent years cases have been increasing in Cuba, which is a challenge for the health system at its different levels of care, but above all for the primary level of health, since it is here where the diagnosis and follow-up of most cases are carried out.

Motivated by the need to emphasize the comprehensive study of this complex entity, this research is carried out with the aim of clinically and epidemiologically characterizing patients diagnosed with hypertension belonging to the 17-4 medical office in the municipality of Santa Clara.

METHOD

Type of study: an observational, descriptive, cross-sectional study was carried out in hypertensive patients of the medical office 17-4 located in the health area of the "Chiqui Gómez Lubian" polyclinic in the municipality of Santa Clara in the period from February to May of 2021.

Universe and sample: the universe consisted of 193 hypertensive patients who were willing to participate in the study; the sample matches the universe.

Variables and data collection: the studied variables were: age, sex, skin color (black, white, mixed-race), risk factors (sedentary lifestyle, smoking, alcoholism, dyslipidemia, obesity, poor dietary habits), symptoms at the time of diagnosis (headache, tinnitus, asymptomatic and other symptoms), family history of hypertension (first-degree relatives, second-degree relatives, third-degree relatives and no degree of kinship) and drugs used to treat hypertension (diuretics, beta-blockers, calcium channel blockers, angiotensin converting enzyme inhibitors (ACEIs), angiotensin receptor blockers (ARBs), and others (alpha-blockers, central sympatholytics, peripheral adrenergic antagonists, and direct vasodilators).

The data were obtained from the family health history, the individual clinical history and from an interview carried out with the patients.

Statistical processing: for the analysis of the variables, a database was created in Microsoft Excel 2016 version; the information was processed using descriptive statistics (absolute and relative percentage frequencies).

Ethical standards: approval was obtained from the Ethics Committee and the Scientific Council of the "Chiqui Gómez Lubian" polyclinic in the municipality of Santa Clara. Informed consent was requested and the basic ethical principles contained in the II Declaration of Helsinki were complied with.

RESULTS

The studied patients were between 25 and 94 years old, for a mean of 54,7 years old; patients aged between 40 and 59 years old (48,7 %) and the female sex predominated with 112 patients (Table 1).

Black-skinned patients (36,8 %) predominated, followed by white-skinned (32,1 %) and mixed-ra-ce (31,1 %).

The predominant coronary risk factors were smoking with 134 patients and poor dietary habits with 132 (Table 2).

Table 1. Distribution of patients according to age and sex. Medical office No. 17-4 of the "Chiqui Gómez Lubian" polyclinic, Santa Clara municipality. February to May 2021

Age group	Sex Female		Sex Male		Total	
	No.	%	No.	%	No.	%
< 20	3	1,5	5	2,6	8	4,2
20-39	16	8,3	12	6,2	28	14,5
40-59	51	26,4	43	22,3	94	48,7
≥ 60	42	21,8	21	10,9	63	32,6
Total	112	58	81	42	193	100

Source: family medical records and individual medical records.

43,3 % of the patients reported headache at the time of diagnosis (Figure 1).

Table 2. Distribution of patients according to the main identified risk factors.

Risk factors	No.	%
Sedentary lifestyle	120	63,8
Smoking	134	71,3
Alcoholism	9	4,8
Dyslipidemia	15	8,0
Obesity	5	2,7
Bad dietary habits	132	70,2

Patients with a family history of first-degree hypertension represented 35,2 % of the cases (Figure 2).

Of the 193 studied patients, 69 received treatment with angiotensin converting enzyme (ACE) inhibitors, which makes these drugs the most widely used for the control of hypertension (Table 4).

DISCUSSION

Hypertension is one of the most important health problems in contemporary medicine and has been

called "the silent plague of the 21st century"[2]. Promotional strategies around this disease are aimed at eliminating unhealthy lifestyles and identifying those individuals with a higher probability of suffering from it, in order to establish timely diagnosis and treatment, as well as reduce the risk of complications and death[9].
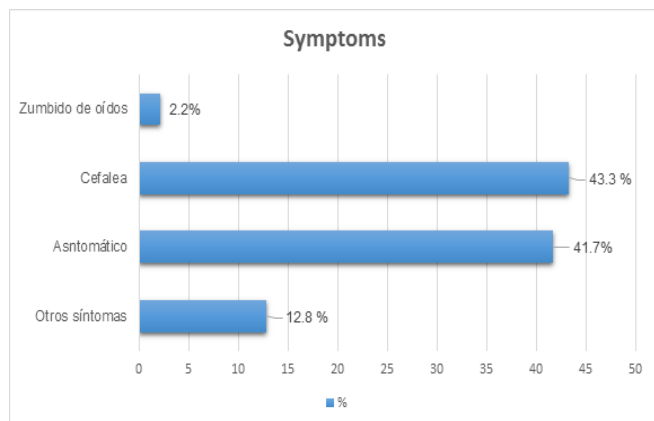

Figure 1. Main symptoms reported by patients at the time of diagnosis

Systolic pressure increases with age, mainly due to the loss of elasticity of the large arteries associated with the increase in vasoconstrictor stimulus potentiated by the increase in the thickness of the middle layer and the ventricular mass[8]. In the present study, the majority of patients were between 40 and 59 years old, followed by hypertensive patients aged 60 years old or older; similar results were obtained by Hechavarria[9] and García[10] who observed that as age increased, so did the number of hypertensive patients.
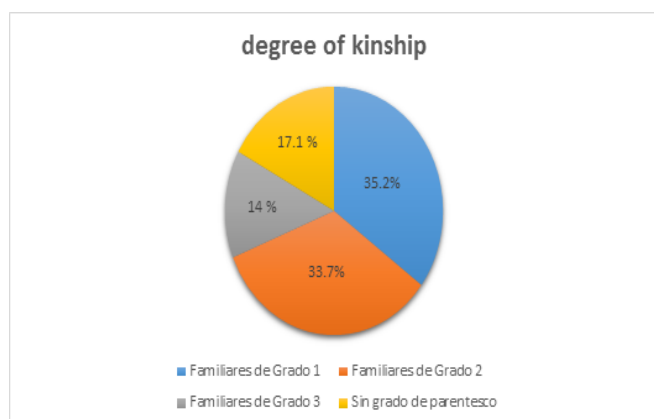

Figure 2. Family history of arterial hypertension

Regarding sex, Carrazana - Cruz et al.[11] state that there is a predominance of males (53,84 %), a result that differs from the present study. At the end of 2021 in Cuba there was a total of 230,2 hypertensive patients per 1 000 inhabitants, with a clear predominance of the female sex, which showed a prevalence rate of 249,3; while in men a

lower rate was found, of 210,8[12]. The research is in correspondence with what was previously stated, female hypertensive patients predominated, representing 58 %.

Table 4. Drugs used for the treatment of AHT.		
Drug	No.	%
Diuretics	24	12,4
Beta blockers	48	24,9
Calcium channel blockers	33	17,1
ACEIs*	69	35,7
ARBs**	4	2,1
Others	15	7,8
*Angiotensin converting enzyme inhibitors **Angiotensin receptor blockers		

Regarding skin color, the results coincide with several authors[14,10], in whose research the studied hypertensive patients have been mostly black. Hernandez et al.[1] recognize that individuals with black skin color have a greater global burden of hypertension and a greater probability of complications; although this aspect is currently very controversial and some authors consider that these are only quantitative and not qualitative differences.

In studies[14,15] carried out in other countries, a greater predisposition of black people to suffer from this disease and a less fortunate prognosis have been shown, given the seriousness of the repercussion on the target organs; for example, end-stage renal failure in hypertensive patients has been reported to occur 17 times more frequently in black than in white people.

In an attempt to explain racial differences, several hypotheses have been put forward involving genetic alterations, increased vascular hyperactivity and salt sensitivity, as well as reduced activity of the sodium-potassium- ATPase pump , abnormalities of sodium-potassium cotransporters , and sodium-lithium, a low activity of endogenous vasodilator substances, diets with a high salt content, smoking and the sociocultural stress that conditions racism[16].

Of the risk factors found in patients, smoking was the most predominant, which coincides with what was published by García[10], who found that 71,28 % of hypertensive patients in his study were

tobacco users.

As La-Fontaine-Terry[17] found in his studies, the most frequent initial symptom of AHT was headache, a result similar to that obtained in the present study.

Heredity is of great importance as a factor that predisposes to the development of hypertension, since increased blood pressure is observed very frequently in people whose parents suffer the disease. Most of the studied patients had a family history of first-degree hypertension, coinciding with what was stated by Vega et al.[19].

The most universally used hypotensive medications for having withstood therapeutic tests, according to multicenter studies, and considered as first-line are diuretics, beta-blockers, calcium channel blockers, ACE inhibitors, and more recently, ARBs. Other medications such as alpha-blockers, central sympatholytics, peripheral adrenergic antagonists and direct vasodilators are considered second or third-line and some are reserved for very specific situations[20]. In the present study, the most used drugs were those recognized as first-line.

CONCLUSIONS

Most of the hypertensive patients were female and in the age group between 40 and 59 years old. The risk factors that most affect hypertensive patients in this community are smoking and poor dietary habits; headache was the most frequent symptom reported by patients at the time of diagnosis. Hypertensive patients with first-degree family history predominated and the most used drugs in treatment were ACE inhibitors.

AUTHORSHIP

Laura Adalys Guillen-León: conceptualization, research, project administration and original draft writing.
Carlos Miguel Campos-Sánchez: data curation, methodology, project management and original draft writing.
Daniel Rodríguez-Hurtado: data curation and methodology
Isbety Acosta- Escanaverino: research, software and resources.
Marline Gari-Llanes: research, writing, reviewing and editing.

FINANCING

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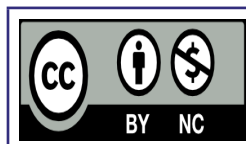
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Caracterización clínico-epidemiológica de pacientes hipertensos de un consultorio médico de Santa Clara

RESUMEN

Introducción: la hipertensión arterial es una enfermedad crónica de elevada morbilidad en la población mundial. Su abordaje supone un reto para el sistema de salud en sus diferentes niveles de atención, pero sobre todo para el nivel primario, pues es aquí donde se realiza el diagnóstico y seguimiento de la mayoría de los casos. Objetivo: caracterizar clínica y epidemiológicamente a los pacientes con diagnóstico de hipertensión arterial pertenecientes al consultorio médico 17-4 del municipio de Santa Clara. Método: se realizó un estudio observacional, descriptivo, transversal en el período comprendido de febrero a mayo de 2021. El universo estuvo constituido por 193 pacientes hipertensos. Las variables estudiadas fueron: edad, sexo, color de la piel, factores de riesgo, síntomas en el momento del diagnóstico, antecedentes familiares y fármacos empleados para el tratamiento. Resultados: predominó el grupo de edad de 40 a 59 años (48,7%), el sexo femenino (58%) y los pacientes de piel negra (36.8%). El tabaquismo sobresalió como factor de riesgo (71,3%) y la cefalea fue el síntoma más frecuente al momento del diagnóstico (43,3%). Los pacientes con antecedentes familiares de hipertensión arterial de primer grado representaron el 35.2% de los casos. Del total de pacientes 69 reciben tratamiento con inhibidores de la enzima convertidora de angiotensina. Conclusiones: los pacientes más afectados son los del sexo femenino con antecedentes familiares de hipertensión arterial. El tabaquismo fue el factor de riesgo predominante en la población y los inhibidores de la enzima convertidora de angiotensina fueron los fármacos más empleados.

Palabras clave: Epidemiología; Factores de riesgo; Hipertensión; Síntomas y signos.