MANAGEMENT OF HYPERTENSION IN PRIMARY CARE

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Abstract

Introduction: Arterial hypertension is the most frequent chronic disease, which is observed in primary care. It is a serious problem, which has a great impact on the community, individuals and health care centers.

Methods: The aim of the study was to evaluate the clinical characteristics of hypertension and its treatment. The study included adult patients diagnosed with hypertension according to the Global Hypertension Practice Guidelines (2020) of the International Society of Hypertension and followed by the general practitioner in the primary health care service.

Results: A total of 70 patients participated in the study, of which 39 men (55.7%) and 31 women (42.3%), with an average age of 44.9 ±5.2 years. The most predisposed age group for men was 45-50 years old, while for women 50-55 years old. Forty-one percent of men with arterial hypertension were smokers. Obesity was found in 38% of male patients and about 42% of female patients. Ten percent of patients were treated with drug monotherapy, 70% with two drugs and 14.2% with triple therapy.

Conclusions: The burden of chronic diseases, including hypertension, is increasing globally, being associated with a large number of patients who require follow-up for long periods of time by health systems. Adequate management by coordinated medical teams can slow progression to damage of other organs, thereby reducing morbidity and mortality in these patients.

Keywords: Hypertension, primary health care.

MENAXHIMI I HIPERTENSIONIT NË KUJDESIN PRIMAR

Abstrakt

Hyrje: Hipertensioni arterial është një nga sëmundjet kronike më të shpeshta, që vërehet në shërbimin shëndetësor parësor. Është një problem serioz, i cili ka ndikime të rëndësishme në komunitet, individë dhe qendra shëndetësore.

Metoda: Qëllimi i studimit ishte vlerësimi i karakteristikave klinike të hipertensionit dhe trajtimit te tij. Ne studim janë përfshirë pacientë adult të diagnostikuar me hipertension sipas Udhëzimeve Globale të Praktikës së Hipertensionit (2020) të Shoqatës Ndërkombëtare të Hipertensionit dhe të ndjekur nga mjeku i përgjithshëm në shërbimin e kujdesit shëndetësor parësor.

Results: Në studim morën pjesë gjithsej 70 pacientë, nga të cilët 39 meshkuj (55.7%) dhe 31 femra (42.3%), me një moshë mesatare 44.9 ±5.2 vjeç. Grupmosha më e predispozuar për

meshkujt ishte 45-50 vjeç, ndërsa për femrat 50-55 vjeç. Dyzet e një përqind e meshkujve me hipertension arterial ishin duhanpirës. Obeziteti u gjet në 38% të pacientëve meshkuj dhe rreth 42% të pacienteve femra. Dhjetë përqind e pacientëve ishin në trajtim me monoterapi medikamentoze, 70% terapi me dy medikamente dhe 14.2% me triple terapi.
Konklusion: Barra e sëmundjeve kronike, mes tyre edhe e hipertensionit po rritet globalisht, duke u shoqëruar me numër të madh pacientësh, të cilët kërkojnë ndjekje për periudha të gjata kohore nga sistemet shëndetësore. Manaxhimi adekuat prej ekipeve mjekësore të koordinuara mund të ngadalësojë përparimin drejt dëmtimit të organeve të tjera, duke ulur kështu morbiditetin dhe mortalitetin në këta pacientë.

Fjalë kyçe: Hipertension, kujdes shëndetësor parësor.

Introduction

The prevalence of arterial hypertension (HTN) is estimated at 1 billion individuals worldwide. The World Health Organization reports that uncontrolled hypertension is responsible for 62% of cerebrovascular accidents (CVA) and 49% of ischemic heart disease (IHD), with little variation by gender. In addition, uncontrolled HTN is the leading risk factor for death worldwide, accounting for 19% (10.8 million) of all deaths (1, 2). Despite numerous clinical practice guidelines for the management of arterial hypertension, implementation remains insufficient with blood pressure control in less than 30% of cases even in high-income countries (3). According to the data of the Global Health Observatory, in all the regions of the World Health Organization (WHO), the prevalence of arterial hypertension was high in Albania, about 41% during the last decades (4). Primary health care teams play an important role in the management of hypertension through public awareness campaigns, assessment and investigation, diagnosis and treatment of hypertension cases to achieve good control and prevent potential complications.

Arterial hypertension is a major risk factor for cardiovascular diseases. The prevalence of the disease has been increasing both globally and nationally as a result of socioeconomic development and urbanization, unhealthy diet, tobacco and alcohol use, and sedentary lifestyles.

1. Systemic arterial hypertension refers to a sustained systemic increase in arterial blood pressure (BP). It is defined as a resting systolic BP (SBP) ≥140 mmHg and/or diastolic BP (DBP) ≥ 90 mmHg (5, 6).
A. Essential hypertension (primary hypertension): contributes to about 95% of cases of hypertension. The main causes in these patients are genetic and environmental factors (5, 6).
B. Secondary hypertension: contributes to about 5% of cases of hypertension in which the cause of high blood pressure can be identified (5, 6).
2. Isolated systolic hypertension: high SBP values (≥ 140 mmHg) and normal DBP values (<90 mmHg) (5, 6).
3. White coat hypertension: is a BP measured in the office and is usually higher than the BP measured outside the office in untreated persons. This is attributed to the stress response, anxiety and/or conditioned response to the unusual situation (5, 6).
4. Masked hypertension: BP that is normal in the office and abnormally high outside the medical setting in untreated persons, also called isolated ambulatory hypertension (5, 6).

5. Orthostatic hypotension: defined as a reduction in PAS of >20 mmHg or PAD of >10 mmHg within 3 minutes from supine to standing (5, 6).
6. Resistant hypertension: when a medication regimen that includes appropriate lifestyle modification measures plus a diuretic (if not contraindicated) and two other antihypertensive medications in full or maximally tolerated doses fails to lower blood pressure to values optimal (5, 6).
7. Refractory hypertension: includes those patients with resistant hypertension who cannot keep BP under control, even with maximum therapy (four or more medications with complementary mechanisms given in maximum tolerated doses) under the care of a hypertension specialist (5, 6).

Table 1. Classification of arterial hypertension based on office blood pressure (BP) measurement (7).

Stages	Systolic (mm Hg)		Diastolic (mm Hg)
BP Normal	<130	and	<85
BP raised within normal limits	130–139	and/or	85–89
Grade 1 hypertension	140–159	and/or	90–99
Grade 2 hypertension	≥160	and/or	≥100

Material and method

This cross-sectional study included patients from a primary care clinic in Tirana during the period April - May 2022. The study included 70 patients aged ≥40 years with previously diagnosed hypertension PAS ≥140 mmHg and or PAD ≥90 mmHg.
Patients with active systemic disease (fever) and pregnant women were excluded.

The aim of the study was to evaluate the demographic, clinical and laboratory indicators in patients diagnosed with arterial hypertension. Adult patients diagnosed with hypertension according to the Global Hypertension Practice Guidelines (2020) of the International Society of Hypertension (ISH) and followed by a general practitioner in a primary health care service were included in the study. BP measurement was carried out according to the recommendations given by the guidelines (7). The included laboratory examinations were lipid profile (total cholesterol and its fractions, HDL and LDL cholesterol, triglycerides), and glycemic profile (fasting and 2-hour postprandial glycemia and HbA1c).

Information was collected on sociodemographic data, comorbidities, diet, lifestyle and tobacco use.

Consent was obtained from individuals included in the study and they also completed questionnaires regarding smoking, physical activity, knowledge about diet and hypertension management.

Statistical analysis:

For data analysis was used SPSS program ver. 15.00. For continuous variables, values are presented as mean and standard deviation (M±SD). For categorical variables, percentage distributions were reported. The differences were called significant for the two-sided value of $p<0.05$.

Results

Table 2. Prevalence of hypertension according to age group and gender

Age group (years)	Male n (%)	Female n (%)	Total n (%)
40-49	13 (18.5)	8 (11.4)	21 (30)
50-59	7 (10)	11 (15.7)	18 (25.7)
60-69	8 (11.4)	4 (5.7)	12 (17.1)
≥70	11 (15.7)	8 (11.4)	19 (27.1)
Total	39 (55.7%)	31 (44.3%)	70 (100%)

A total of 70 patients participated in the study, of which 39 men (55.7%) and 31 women (44.3%), with an average age of 44.9 ±5.2 years. The most predisposed age group for men was 40-49 years old, while for women 50-59 years old.

Table 3. Risk factors for arterial hypertension according to gender

	Male 39 (55.7%)	Female 31 (44.3%)
Smoker n (%)	16 (41)	0
Overweight/Obesity n (%)	15 (38)	13 (42)
Rural area n (%)	12 (31)	8 (25)
Alcohol n (%)	4 (10)	0
Physical activity n (%)	18 (47)	10 (32)

From the data obtained after the questionnaire survey, it was found that hypertension in men is related to the status of a smoker, where 41% of men with arterial hypertension were smokers. Hypertension levels were higher among overweight/obese interviewees compared to those of normal weight, where about 38% of men and about 42% of women had BMI values >25. About 47% of men and 32% of women performed physical activity.

Table 4. Arterial pressure measured in the office in patients with hypertension under medication

Systolic BP	N (%)	Diastolic BP	N (%)
<130 mmHg	7 (10)	<85 mmHg	8 (11.4)
130–139 mmHg	27 (38.6)	85–89 mmHg	28 (40)
140–159 mmHg	28 (40)	90–99 mmHg	32 (45.8)
≥160 mmHg	8 (11.4)	>110 mmHg	2 (2.8)

From the data, it is noted that about 50% of patients diagnosed with arterial hypertension did not have their blood pressure under optimal control.

Table 5. Lipid profile in patients with HTA under medication

Dyslipidemia	N (%)	Value M ±SD
Total cholesterol >220 mg/dl	25 (35.7)	224.2 ±50.1
Triglyceride>150 mg/dl	20 (28.5)	125.4 ±71.3
HDL <35 mg/dl	26 (37)	30.1±10.2
LDL>100 mg/dl	24 (34.2)	161.5 ±23.1

Total cholesterol was found to be elevated in 35.7% of hypertensive patients with an average value of 224.2 mg/dl, in 28.5% of cases triglycerides were found to be elevated with an average value of 125.4 mg/dl and in 34.2% of cases the values of LDL were high, with a mean value of 161.5 mg/dl. Regarding HDL, about 37% of patients had low values, which is directly related to the risk of cardiovascular events.

Table 6. Prevalence of concomitant diseases

Diseases	N (%)
Diabetes Mellitus	8 (11.4)
Chronic renal disease	9 (12.8)
Cardiac disease	25 (35.7)

11.4% of patients with hypertension had also Diabetes Mellitus with HbA1c values from 7.5-13.8%.

Table 7. Non-pharmacological management of arterial hypertension

	Cases (n)	%
Diet	60	85%
Physical activity	28	40%
Alcohol/ smoke cessation	20	28.5%

Almost half of men 47%, and nearly a third of women 32%, were trying to control weight or lose weight through physical activity and a healthy diet, while 85% of patients reported trying to control salt intake in their diet.

Table 8. Drug management of arterial hypertension

	Cases (n)	%
ACE-inhibitors/ARB	59	84.5%
Ca-blockers	48	68.5%
Diuretic	24	34.2%
Other medications*	14	20%
Monotherapy	7	10%
Dual therapy	49	70%
Triple therapy	10	14.2%

*Amiloride, doxazosin, methyldopa, moxonidin, eplerenone, beta-blockers
About 46 (65.7%) of the patients were compliant with medication therapy for the treatment of arterial hypertension, 24(61%) males and 22(71%) females.

Discussion

Comprehensive study analyzes have shown that since 1990 the prevalence of hypertension worldwide has increased and the number of people with hypertension has doubled, with most of the increase occurring in low- and middle-income regions. In high-income countries, prevalence has declined, and about 80% of patients with HTN are under treatment, with good BP control in up to 60% (8).
In accordance with most major guidelines, it is recommended that hypertension be diagnosed when the clinical SBP is ≥140 mm Hg and/or the DBP ≥90 mm Hg on several consecutive examinations. Elevated BP within normal limits aims to identify individuals who may benefit from lifestyle interventions and those who are recommended to start pharmacological treatment if indications are present according to the clinical situation. 2-3 office visits at 1–4-week intervals (depending on blood pressure level) are necessary to confirm the diagnosis of hypertension. Diagnosis can be made in a single visit, if BP is ≥180/110 mmHg and there is evidence of cardiovascular disease (CVD) (5).
From the data of our study, hypertension was more prevalent in men (55.7%). This difference in the prevalence of HTN between the genders is attributed to differences in the type of diet, lifestyle choices, level of physical activity, and some genetic variation (9). The highest prevalence of hypertension in men was at the age of 40-49 years, and in women at the age of 50-59 years. A high prevalence of hypertension was observed in the age over 70 years for both men and women. Isolated systolic hypertension SBP (≥140 mm Hg) and low DBP (<90 mm Hg) is common in the elderly, in whom it reflects stiffening of the large arteries with an increase in pulse pressure (difference between SBP and DBP). Although hypertension is not directly related to the female gender, aspects such as: pregnancy, pregnancy planning and menopause can increase the risk of its development. The likelihood of developing hypertension increases significantly during menopause in women.
Gender, age, race and heredity are risk factors for HTA, which cannot be modified, but lifestyle such as obesity, diet, physical inactivity, stress, use of certain medications, smoking, excessive alcohol consumption are modifiable risk factors.
As mentioned in earlier studies (10), in our study we found also a high prevalence of risk factors such as smoking (41% of men), overweight/obesity (38% of men, and about 42% of women), excessive alcohol consumption (10% of men), physical inactivity (53% of men, 68% of women). More than 50% of patients with hypertension have cardiovascular risk factors (11). The most common risk factors are diabetes (15%-20%), dyslipidemia (elevated LDL-C and triglycerides [30%]), overweight-obesity (40%), hyperuricemia (25 %) and metabolic syndrome (40%), as well as unhealthy lifestyle (smoking, high alcohol consumption, sedentary lifestyle). Fasting blood glucose levels should be reduced below 126 mg/dL (7 mmol/L) and HbA1c below 7% (53 mmol/mol) (5). Treatment should include a statin if LDL >70 mg/dL (1.8 mmol/L) (diabetes with target organ damage) or >100 mg/dL (2.6 mmol/L) (uncomplicated diabetes). The presence of one or more cardiovascular risk factors increases the risk of coronary, cerebrovascular and renal diseases in hypertensive patients (5).

Hypertensive patients have several common comorbidities that may influence increased cardiovascular risk and treatment strategy. The number of concomitant diseases increases with age, with the prevalence of hypertension and other diseases. The most common comorbidities include coronary artery disease (CAD), cerebrovascular disease, chronic kidney disease (CKD), heart failure (HF).
In our study, about 35.7% of patients with HTN also had data on cardiac disease, which correspond to those in the literature (12). Lifestyle changes (smoking cessation, diet and exercise) are recommended. BP should be decreased if ≥140/90 mmHg and treated to achieve a target of <130/80 mmHg (<140/80 in elderly patients). Blockers of the renin angiotensin system (SRA), beta-blockers regardless of PA levels with or without calcium channel blockers are first-line medications in patients with hypertension (5). Lipid-lowering treatment with an LDL-C target of <55 mg/dL (1.4 mmol/L) (13) is very important. An antiplatelet agent (acetylsalicylic acid) is also recommended (5).
Hypertension is a major risk factor for the development and progression of albuminuria and any form of CVD (14). A lower glomerular filtration rate is associated with resistant hypertension, and high blood pressure values at night (14). Glomerular filtration, microalbuminuria and blood electrolytes should be monitored (5).

Treatment of hypertension

Choosing a healthy lifestyle can prevent or delay the onset of hypertension and can reduce cardiovascular risk (15). Lifestyle modification is also the first line of antihypertensive treatment. Lifestyle changes can also enhance the effects of antihypertensive treatment. It is recommended to reduce the amount of salt during food preparation and at the table, as well as avoiding the consumption of foods with a lot of salt such as fast foods and processed foods. Eating a diet rich in whole grains, fruits, vegetables, unsaturated fats and dairy products and reducing foods high in sugar, saturated fats (16). Adding vegetables to the diet that are high in nitrates known to reduce blood pressure, such as leafy greens and beets. Body weight control is necessary to avoid obesity. Abdominal obesity in particular needs to be managed. Studies suggest that regular aerobic and resistance exercise may be beneficial for both the prevention and treatment of hypertension (17). About 85% of our patients were trying to adjust their diet, and 40% were doing physical activity according to the doctor's advice.
Non-adherence to antihypertensive treatment is observed in 10%–80% of hypertensive patients and is one of the main factors of poor BP control (18). The etiology of nonadherence to antihypertensive treatment is multifactorial and includes causes related to the health care system, pharmacological therapy, disease, patients, and their socioeconomic status (19).

Conclusions

A multidisciplinary approach of the health care team is needed to improve the monitoring, follow-up and treatment of patients with arterial hypertension. It is recommended to reduce polypharmacy, e.g., the use of combinations in a single pill, as well as once-daily doses. Monitoring PA at home as well as empowering self-management counseling. In addition to BP control, the therapeutic strategy should include lifestyle changes, body weight control, and effective treatment of other risk factors in order to reduce cardiovascular risk.

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