

## Choosing the Correct Medication and Evaluating the Effectiveness of Farmadipine and Captopril in Patients Diagnosed with Arterial Hypertension in Emergency and Urgent Care Settings

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**Abstract:** Arterial hypertension (AH) holds a leading position among common cardiovascular diseases due to its high prevalence, potential for serious complications, disability, and elevated mortality rates. The main reasons for these issues include the late detection of the disease, lack of blood pressure control, failure to adhere to dietary recommendations, psychological stress, and delays in providing medical care during hypertensive crises, often due to patients and their relatives not knowing the necessary first aid.

**Keywords:** Arterial hypertension, first medical aid, captopril, farmadipine.

AH is one of the most frequently encountered conditions in emergency and urgent medical practice. According to the World Health Organization, 27% of the population over 20 years of age suffers from AH, and this percentage is expected to rise to 29% by 2025, affecting over 1 billion people globally. In Uzbekistan, high blood pressure is detected in 13-15% of the entire population and in 26.6% of people aged 40-59. However, only 50% of these patients are aware of their condition, and a very small percentage regularly monitor their blood pressure and take antihypertensive drugs on a consistent basis. Three-quarters of these patients and their relatives either lack a blood pressure measuring device at home or do not know how to measure blood pressure correctly. This leads to delayed assistance in cases of increased blood pressure, increased load on emergency and admission departments, and a rise in complications from hypertensive crises.

Farmadipine and Captopril are among the drugs used in emergency situations for patients with AH. Knowing how to use these drugs appropriately and understanding their mechanisms of action can prevent the dangerous complications associated with arterial hypertension."

Pharmacologic features	Kaptopril	Farmadipin
Group	Angiotensinconverting Enzyme inhibitors	Calcium channel blockers
The onsen of action	After 15-20 minutes	After 5-10 minutes
The duration	5 hours	4-6 hours
Half-life	3 hours	2-4 hours
Indications	1. For arterial hypertension and hypertensive crisis, inhale 25-50 mg. 2. Acute myocardial infarction. 3. Chronic heart failure. 4. Diabetic nephropathy with	In cases of hypertensive crises. In these cases, the dose is individually selected. Initially, 3-5 drops are placed on bread or sugar and held in the mouth. For elderly patients, the initial dose should not exceed 3 drops.

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	macroproteinuria.	Then, if necessary, 2-3 drops can be used up to a total of 10-15 drops until a clinical effect is achieved."
Contraindications	<ol style="list-style-type: none"> <li>1. Bilateral renal artery stenosis,</li> <li>2. Porphyria,</li> <li>3. Pregnancy and planning for pregnancy, the initial 4 weeks of acute myocardial infarction,</li> <li>4. Unstable angina,</li> <li>5. The decompensation stage of chronic heart failure, and others.</li> </ol>	The initial 4 weeks of acute myocardial infarction, Unstable angina, Decompensation stage of chronic heart failure, among others

**Research Objective:** To determine how first aid was administered to patients with arterial hypertension, which medications were used, and to teach patients how to use Captopril and Farmadipine.

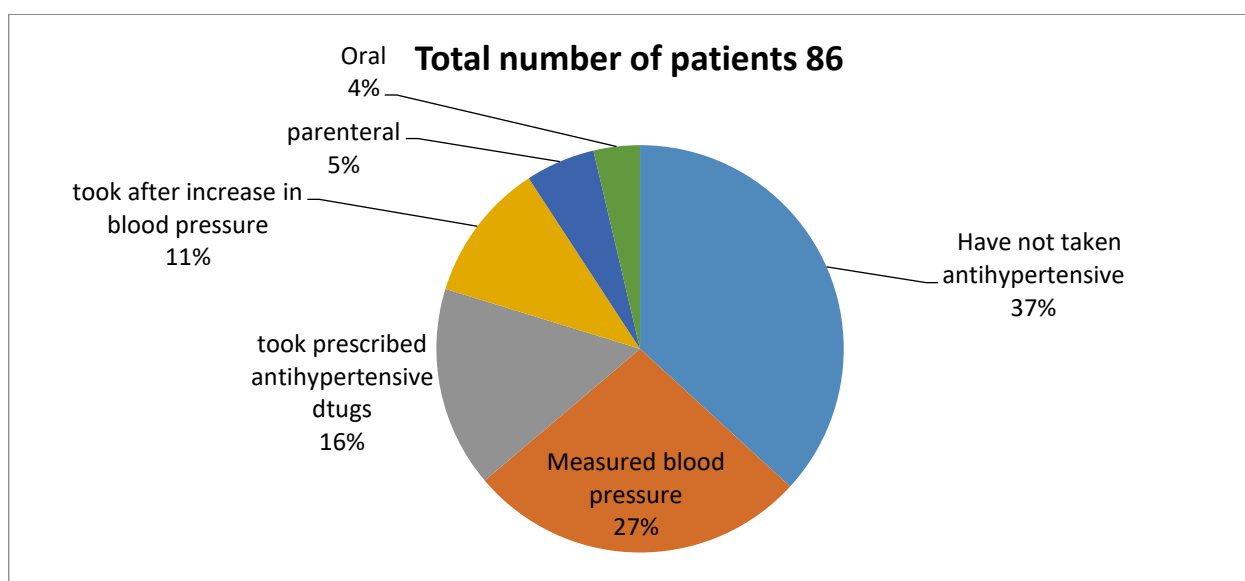
**Research Materials and Methods:** A survey was conducted at the Jombay District Medical Association (TTB) Reception Department in Samarkand region to understand how first aid was provided and which medications were used for 86 patients who came with elevated blood pressure. The survey included 37 men (43.02%) and 49 women (56.98%). The age range for men was 28-76 years (average  $54.3 \pm 0.85$ ), and for women, it was 32-84 years (average  $58.2 \pm 0.64$ ).

**The frequency of different stages of arterial hypertension among male and female patients who visited the Jombay Reception Department is given in Table 1**

Gender	AH I degree	AH II degree	AH III degree
Male	13	18	6
Female	17	21	11
Total	29	39	17

Of the total 86 patients who visited, only 44 had measured their blood pressure. Out of these 44 patients, 26 had taken antihypertensive medication on the day of their visit. Among these 26 patients, 18 took the medication after experiencing a rise in blood pressure. Nine of these patients received antihypertensive drugs parenterally, six took them orally, and the remaining three patients received medication both parenterally and enterally (Figure1).

**The distribution of patients according to the regimen of taking antihypertensive medications.**



Patients and their relatives were taught the correct method of measuring arterial blood pressure using a mechanical sphygmomanometer, following the Riva-Rocci-Korotkov technique. Subsequently, an appropriate dose of antihypertensive medication was selected for the patients. Instructions were given on how to use Captopril and Farmadipine in emergency situations, depending on the diagnosed stage of arterial hypertension.

After 30 days, a follow-up examination was conducted through outpatient clinics and hospitals, where patients' blood pressures were measured, and a repeated survey was taken.

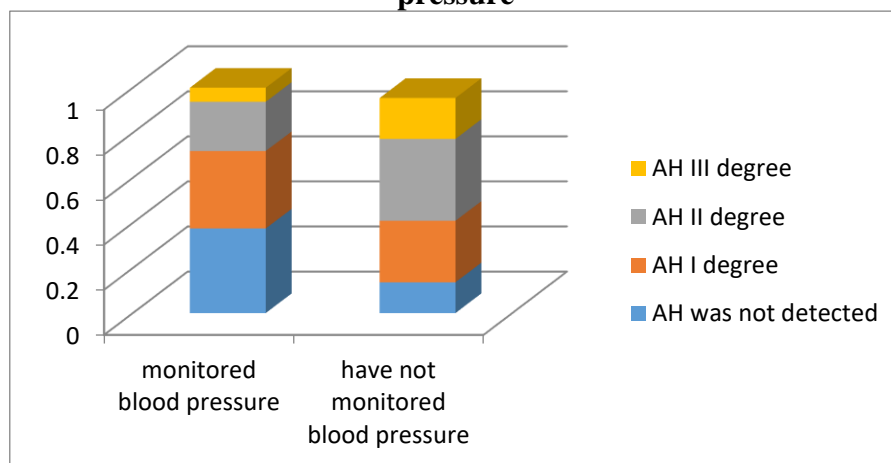
**The frequency of different stages of arterial hypertension among male and female patients**

Gender	AH was not detected	AH I degree	AH II degree	AH III degree
Male	11	13	11	2
Female	16	15	13	5
Total	27	28	24	7

**Results and Discussion:** According to our research, among the 86 patients diagnosed with arterial hypertension (AH), only 44 (51.16%) had measured their blood pressure before arriving at the hospital. Of these patients, 26 (30.23%) had taken antihypertensive medication on that day, and 18 (20.93%) had taken the medication after experiencing a rise in blood pressure. In these 86 patients, the stages of AH were diagnosed as follows: stage I in 29 patients (33.72%), stage II in 39 patients (45.35%), and stage III in 17 patients (19.76%).

Subsequently, patients and their relatives were educated on the correct procedure for measuring arterial blood pressure. The appropriate doses of antihypertensive medication were selected for the patients, and instructions were given for using Captopril and Farmadipine in emergency situations based on the diagnosed stages of arterial hypertension. A follow-up after one month revealed the following conclusions: AH was not detected in 27 patients (31.4%). Among the remaining patients, AH stage I was diagnosed in 28 patients (32.56%), stage II in 24 patients (27.9%), and only 7 patients (8.1%) were found to have stage III AH (Figure 2)."

**The incidence of blood pressure in patients who have and have not monitored their blood pressure**



**Conclusion:** From the results of our study, we can conclude that educating patients and their caregivers on how to consistently monitor blood pressure, selecting the appropriate medications, and explaining the correct dosage of Captopril and Farmadipine under high arterial hypertension (AH) conditions have led to a decrease in AH incidents and a reduction in the number of doctor visits. This has improved the quality of life for patients. Therefore, by correctly selecting antihypertensive medications and teaching patients with AH how to control it, it is possible to achieve a reduction in the prevalence of AH.



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