



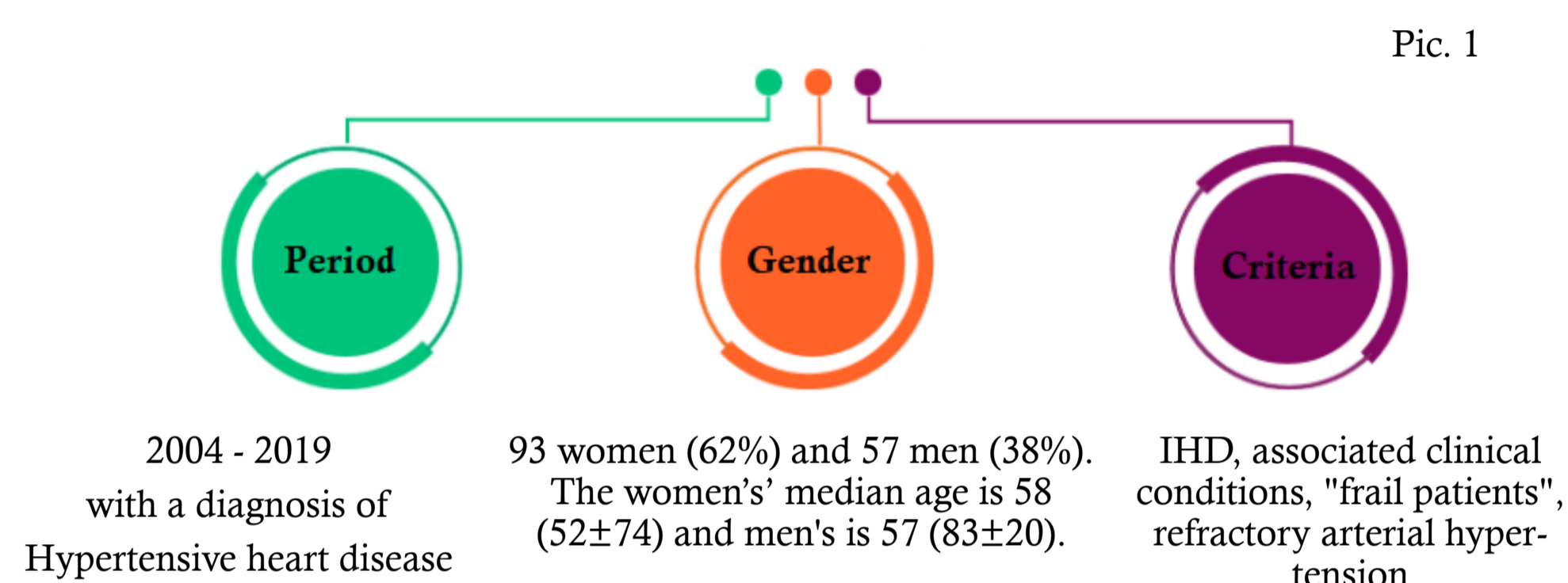
Assessment of Quality and Effectiveness of Medical Care for Patients with Arterial Hypertension

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Research Materials and Methods

A retrospective analysis has been done of 150 outpatient medical cards of patients who sought medical assistance in the Municipal Autonomous Institution Central City Clinical Hospital No. 24 and the Municipal Budgetary Institution Central City Hospital No. 6 of Ekaterinburg city (pic. 1).



The Assessment of the Effectiveness of Follow-up Care in the Prevention of Cardiovascular Complications

Based on the results of the analysis of outpatient medical records, it was found that clinical review coverage of patients with arterial hypertension is 69.3 %. When using Pearson's chi-squared test (χ^2), no significant differences were obtained ($p=0.437$) in the area of dependence of achievement of target BP values on follow-up care. The difficulty of achieving the target BP values may be related to deficiencies in the organisation of the review process, lack of time for examination and medical history collection, insufficient training of doctors, or lack of patient compliance. It is necessary to have better monitoring of the results of follow-up care. The greater reduction in the level of BP was achieved in patients who visited the clinic for hypertension at least once every 4 to 6 months, than in those whose frequency of visits was less than once in 6 months. As a result of the analysis of the scope of follow-up care, the patients were divided into groups depending on the extent of examinations carried out: the first group took less than 25% of the medical tests and the second group took 50-75% of tests of total amount recommended, according to clinical guidelines.

Thus, there were no significant differences in the effect of the amount of examinations on the extent of the achievement of the target BP values ($p=0.259$). This may be due to the workload of the primary care physicians, which can influence the interpretation of the obtained tests results and therefore affect selecting suitable therapy.

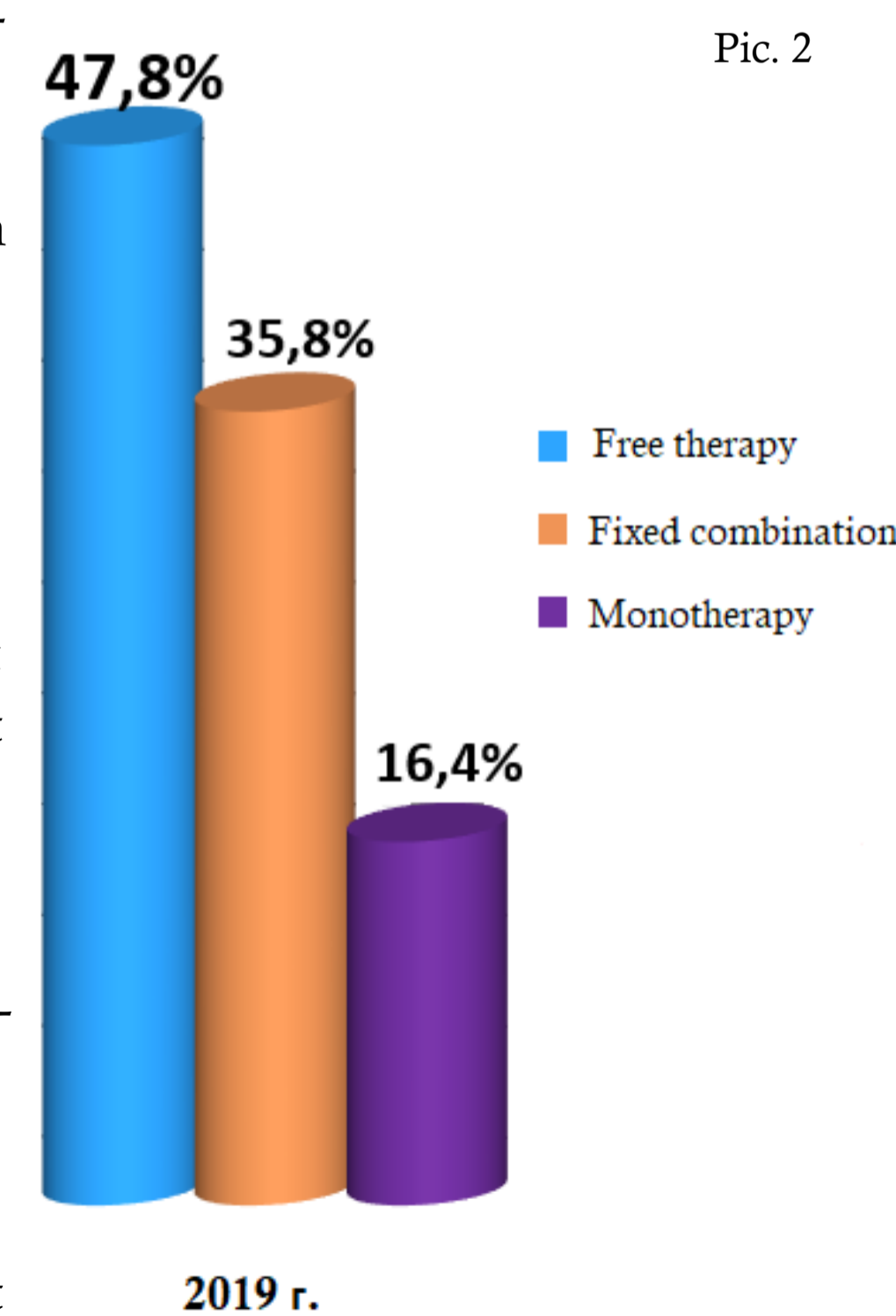
In addition, there have been no significant differences in the effect of the thoroughness of the medical history collection on achieving the target BP values ($p=0.328$). A decrease in the overall hospitalisation of patients for hypertension correlates with the clinical observation of patients ($p<0.0001$).

Changes to lifestyle should be recommended to all patients with arterial hypertension and these changes are most effective for the category of patients with CVD [7]. When comparing patients in Group A (with prescribed pharmacological and drug-free therapy) and Group B (patients receiving only pharmacological therapy), there is a credible evidence that the target BP values have been achieved more successfully in patients with drug-free therapy in addition to the main pharmacological therapy ($p<0.0001$). This is explained by the fact that drug-free treatment methods are aimed at correcting modifiable risk factors for hypertension.

Use of Clinical Guidelines for Hypertension in Practical Health Care

In spite of the fact that a fixed combination of antihypertensive drugs has proven most effective at the moment [8,9], this study shows a trend towards using a free combination of drugs as of 2019 (47.8%) (pic. 2).

The clinical guidelines for hypertension reflect the advantages of combination therapy over monotherapy, advantages that have been repeatedly proven [10,11]. However, no significant differences have been found in the attainment of the target BP values or the number of hospitalisations from prescribed drug therapy among patients receiving monotherapy or a free combination of drugs ($p=0.784$). Most likely, this may be due to the low patient adherence to treatment [12]. Achieving the target BP with fixed combinations has not proven a significant result in comparison with free therapy ($p=0.496$). This may be due to the use of free drug combinations in insufficient dosages. When comparing monotherapy with free therapy ($p=0.496$) and fixed combination therapy ($p=0.496$) we did not detect dominant effectiveness in achievement of target BP values.



Drugs of the ACE inhibitor group (ACE inhibitors) are drugs of choice for the initial treatment of hypertension. Despite this, the analysis of prescribed drug therapy showed a preferred choice for angiotensin receptor blockers (ARBs) (38.4%) over ACE inhibitors (31%). In turn, no significant differences have been found in the beneficial effect of ARB therapy compared to ACE therapy ($p=0.468$).

Not all medical institutions are currently ready to implement clinical guidelines into real medical practice, that dictates the need to improve the training of outpatient doctors and optimisation of work in therapeutic areas. Thus, it should be emphasised that the problem of achieving the target BP values in outpatient patients is very significant and in order to achieve optimal numbers, it is required to work actively on correction of clinical observation, selection of therapy, including drug-free therapy.

Conclusions

- 1) Follow-up care of most patients in the study group is insufficiently effective, and does not lead to the achievement of the target BP values, which indicates a loss of control over the disease and an increased risk of cardiovascular complications.
- 2) The frequency of outpatient visits has an impact on the results of treatment. Optimal control of arterial hypertension is achieved by more frequent visits for preventive purposes, at least once every 4 to 6 months, regardless of the stage of hypertension.
- 3) The influence of clinical observation on the reduction of the number of subsequent hospitalisations in this group of patients has been proven.
- 4) Follow-up care of patients with arterial hypertension needs improvement to ensure effective disease control, which will have an effect on the quality of life and long-term prognosis of patients.
- 5) There is a tendency to reduce the value of non-drug therapy, despite its proven effectiveness. It is important to actively inform the patient about the need to correct the lifestyle and record this information in the medical records.
- 6) There are inconsistencies within the clinical guidelines about therapy for patients with arterial hypertension. The predominance of free combinations of antihypertensive drugs and the beginning of therapy with second-line drugs indicates a lack of awareness from primary care physicians of the presence of new treatment requirements.
- 7) The readiness of medical institutions to manage patients with arterial hypertension in accordance with clinical guidelines is debatable. It is necessary to improve the organization of healthcare and the training of outpatient doctors to effectively incorporate clinical guidelines into real medical practice.